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NEW COMPUTER EXPRESS

BRITAIN'S BIGGEST SELLING COMPUTER WEEKLY

AMIGA

- A-Max II arrives
- Voice recognition
- Vietnam war sim

ST

- Auto-clean mouse
- Play Core Wars for £3
- Atomix: chemical fun

PC

- IBM PS/1 add-ons
- Guinness CD-ROM
- £700 A4 portable

CONSOLES

- Super Famicom pic
- Grey Sega sensation

CPC

- Sensible's 3D Tennis

Specialist Columns for: SPECTRUM•C64•MSX•PCW• QL•SAM•BBC•ARCHIMEDES

DO A DEAL! 32 bargain-packed pages in SHOPPING EXPRESS

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Book of Records disk due on PC and CDTV

MIRRORSOFT MOVES DEEP INTO CD-ROM

Top publisher Mirrorsoft is to extend its commitment to the rapidly growing CD-ROM format with a version of *The Guinness Disc Of Records* for the PC. A version for Commodore's Amiga-based CDTV is also under active consideration.

The new disks represent part of a growing trend towards CD-ROM as a media for the transmission of complex multimedia information.

The Macintosh version of *The Guiness Disc of Records* recently won an award from an international CD-ROM conference as the 'best achievement in mixed media'. Mirrorsoft claims that, unusually, the PC-compatible version will be even more user friendly than the Apple software.

The £99 disk features over 440Mb of text, pictures and sounds covering 4,000 different record topics. The material incorporates the full text of the British, American and Australian versions of the book.

Some five months in development, the CD-ROM data has been converted from the Mac version with a Windows front end replacing HyperCard. Utilising Windows 3's virtual memory, the PC version will be able to play sound and show animated screens simultaneously. The disk will combine three graphics modes to display either 256, 16 or 2 colours depending on the capabilities of the host computer.

Mirrorsoft is well known as a pioneer in the CD-ROM field. In conjunction with Cinemaware, it released the world's first CD-ROM game – *Defender of the Crown*. Now the company is looking at CDTV, CD-Interactive and FM Towns titles, but as spokesman John Norledge told *Express*, "We'll be making announcements when we're ready... we don't want to produce vapourware". ■

• Mirrorsoft's new PC CD-ROM contains 300 high-resolution pictures of record breakers.

NEW NINTENDO – FIRST PICTURE

• The giant Japanese console corporation Nintendo will be releasing its long-awaited 16-bit Super Famicom games machine the US and UK late next year. Although cartridges will be incompatible with existing Nintendo Entertainment Systems, the projected price point – around £100 – should nevertheless ensure good sales. While the unit may have twice the screen resolution and twice the power of its predecessor, it doesn't seem to have twice the looks. ■

Arc CD-ROM drive offers custom disks

A new CD-ROM drive for the Archimedes comes with the offer of having your own CD pressed for just £170.

Next Technology of Cambridge normally offers the chance to have your own CD-ROM disk printed for £220 by way of a system called Pressed for Time. Purchasers of the CD-ROM drive get £50 off a Pressed for Time disk.

The £995 drive, jointly developed by Acorn and Next Technology, will fit the Archimedes and BBC A3000 and is capable of storing 550Mb of data.

The information held on the disk includes photographs, high quality audio, text or a combination of all three. It also comes with Compact Disc Filing System (CDFS) software. This enables the drive to read information from any standard CD-ROM formats.

Using the software, and the CD interface card which comes with the drive, up to 20 CD players can be 'daisy chained' at any one time. If you don't want prying eyes – or school children's fingers – to get hold of your disks, the eject button can be disabled.

For more information on Pressed for Time and the CD-ROM drive is available on 071-833 3441. ■

Legal moves in the computer world about to bring change

HACKING: A NEW LAW AND CALL FOR EXTRA POWERS

In a week that has seen several legal initiatives to clean up computing, there has been a call for new police powers to enforce the provisions of the Computer Misuse Act, which received Royal Assent last week.

Hacking, defined as the unauthorised access to a computer system for whatever purpose, will finally be illegal when the Act comes into force at the end of August, but at least one MP feels that the police need additional powers.

In an interview with Express, Emma Nicholson MP revealed her intention to add tough new clauses to the Criminal Justice Bill scheduled for the Queen's Speech this November.

"I'm delighted we've got so far so fast, but we've still got further to go." Nicholson said.

"We need further police powers which are more appropriate to the electronic age rather than to the age of the burglar". Her proposals are likely to include amendments concerning telephone tapping and surveillance which she failed to move into the new Act.

Although Nicholson wanted surveillance and phone tapping, police powers under the new Act are limited to the search of premises and the seizure of materials and equipment, and then only with a warrant from a judge.

The Police are currently assessing their approach to enforcing the new laws. Alison Bland, spokesperson for Scotland Yard's Computer Crime Squad, currently the only unit of its kind in the country, told Express that policing of the new law will be regionally-based with local fraud squads responding to reported incidents of hacking.

"Time will tell if the law is unworkable or not... it's still far too early to say" she stated.

Large companies with the resources to pursue hackers may be the prime initiators of prosecutions under the Computer Misuse Act.

The Police would appear to be short of appropriately skilled manpower – even the main unit at Scotland Yard has only four officers, leading to suggestions that, as in the US, the Police would need to train officers in the skills of hacking or be forced to seek assistance from third party security agencies.

Ironically, many such companies are themselves staffed by professional hackers contracted to search for valuable data from competitors' systems.

One hacker contacted by Express poured scorn on the proposed policing of the Act. "It won't make any difference at all... they would have to have a row of bobbies in every telephone exchange monitoring every line to stand a chance of catching anyone who matters.

"Sure they might pick up a few amateurs like Whitely and Singh but the professional hacker will continue to work behind the facade of notoriety, doing the job and getting paid handsomely. The new law will make little difference."

● Three new criminal offences are created by the Computer Misuse Act, which allows organisations or individuals to bring prosecutions for illegal access to computer systems.

After August 29, using a computer without the owner's permission could result in a fine of up £2000 or up to six months in prison.

More serious offences – modifying 'the contents of a computer', or accessing a computer with the intention of committing or facilitating the commission of further offences – carry a maximum penalty of up to five years in prison or an unlimited fine. ■

• Emma Nicholson MP: calling for additional police powers in the war against hacking.

Whitehouse in data drama

In a twist to the continuing controversy over data protection and the individual's right to data privacy, an attempt is being made to bring a private prosecution against Mary Whitehouse and the National Viewers And Listeners Association (NVLA).

It seems the association doesn't appear in the legal register of computer-using bodies, despite being known to have a database of names and addresses of members involved in work against depraved or unseemly broadcasting.

The twist in the tale is that, instead of following the 'usual channels' by going to the Data Protection Registrar, David Northmore, author of the Freedom Of Information Handbook, has taken his complaint straight the Director Of Public Prosecutions (DPP).

An NVLA spokesman told *Express* that, "As far as we're concerned our executive committee members, who are conversant with the details of the Data Protection Act, assure us that we are operating within certain exemptions to the Act, and that's all we're prepared to say."

The spokesman said that the system is a "simple desktop PC system with a database program running on it" and that "the gentleman concerned obviously decided to bring the private prosecution before having the courtesy to consult us about our position."

• Whitehouse: controversial computer use?

NVLA is unwilling to divulge any details of exactly what it is they have on file. When asked about the Whitehouse case, a spokesman for the Data Protection Registrar commented: "It seems like an odd choice. The majority of people bring their complaints to us, rather than the DPP. The first thing we are going to do is check whether the NVLA, Mary Whitehouse is under investigation."

Whether or not Mr Northmore feels that information concerning him is held by the NVLA is unknown. ■

Euro-pirates to face the fire

The European Parliament is to debate a proposal to standardise the copyright law as it applies to computer software, with a view to bringing laws in all member states into line with UK practice.

The problem is that in the EEC copyright laws vary so widely that in some countries, including Spain, Portugal and Scandinavia, it is legal to copy anything you like, and even sell it in shops. Indeed in Greece and Italy there are no copyright laws whatsoever with respect to software. At the other end of the scale, in West Germany copyright legislation is fixed at such a high level that even well-known publishers would be hard pushed to prove they had marketed an original product.

Bob Hay of the the UK's Federation Against Software Theft which has submitted written evidence to the Commission, told Express, "It's likely that British copyright laws will be adopted by the EC as they're comprehensive and appeal to the US. In Europe, on the one hand you have Greece which has never been a signatory to an international copyright convention, and Germany where copyright's so tight it's possible even Lotus *1-2-3* wouldn't get copyright protection".

The report, written by Portuguese Liberal MEP Mrs Margarida Salema, will be debated on July 9; the vote will be taken two days later. An EC Directive could be finalised by October making it incumbent on all member states to adopt its dictates. ■

COPYCATS COUNTERED

Following its successful suit against Paperback Software and Mosaic in which Lotus established 'look and feel' copyright for its *1-2-3* spreadsheet, the Lotus Development corporation is now suing Borland International and The Santa Cruz Operation for copyright infringement.

Lotus claims that Borland's *Quattro* and *Quattro Pro*, like Santa Cruz's *SCO Professional*, infringes the copyright established by the case against Paperback, in which the judge ruled the menu command structure and user interface of *1-2-3* were copyrightable features.

"The suit is without merit," commented Borland's founder Phillipe Kahn. ■

Revamped Amiga Mac emulator arrives

Following the limited success of Readysoft's A-Max Apple Macintosh emulator cartridge on the Amiga, a new version is about to be released. The combination of software and hardware allows you to run Macintosh software as if it were running on a normal Mac Plus.

The first A-Max was a good emulator, but couldn't access hard disks, and couldn't use Mac hardware such as serial ports, LaserWriters, MIDI and SCSI devices. The A-Max II features fixes of all the major problems with the original unit, and will be available in two versions for A500 and B2000 machines.

The A-Max II model for A500 will be a cartridge similar to the previous A-Max, which plugs into the disk drive port and allows connection of both Amiga and Mac external drives. The A-Max II Plus for the B2000 or Amiga 3000 is a heavily-enhanced version of the same device mounted on a full length card to fit in the internal Amiga slots. On the card version you have the addition of two Mac-format serial ports, Appletalk and MIDI compatibility, and the ability to use Mac disks.

Other new features include the facility to partition your Amiga hard disks to use part of them for installing professional-quality Mac software, direct printing to LaserWriters and ImageWriters, access to Apple SCSI devices through the Amiga hard disk SCSI port, support for Amiga accelerator boards, and full support for Mac digitised sound.

With these additions the A-Max is now a fully compatible Mac emulator, allowing Amigas to be integrated into Mac environments in the home or office, and also allowing Amiga users to 'own' a Mac for about a quarter of the price.

A-Max for the A500 will cost £269.95 with the essential Mac ROMs, while the B2000 version will be £349.95. The release date is set for late July for A-Max II, November for the Plus, and you can contact distributor EI on 0268 541126.

• A-Max: improved version this month.

• Imported Megadrives can run new software.

Grey Segas can use new games

Contrary to official statements, grey imports of the Sega Megadrive 16-bit games console are able to run the 'legal' cartridges.

The only difference, according to *Express* sources, is a notch on the cartridge of the grey imports. This notch can apparently be filed into the cheaper official cartridges in a matter of minutes. The cheaper cartridges will then run in the grey imported machine.

Though it may be possible to persuade the official cartridges to run on a machine imported from Japan, the Japanese machine has no PAL connections for a TV and can only be used through a TV or monitor with a SCART connection or similar. ■

Networks take off as communications expand

COMPUTERS LINKED ACROSS THE GLOBE

According to data analysed by Sapphire International, over half of the major companies using PCs have some sort of networking, and most companies who haven't are planning networks in the next few years.

Sapphire's data shows that almost 50 per cent of corporate computer users have their PCs connected to mainframe or minicomputers.

This upsurge in communications among individual computers is causing the definition of a large machine to be rewritten. Computers are gradually being connected together in a matrix that will soon allow over users all over the world to access what is essentially the same system.

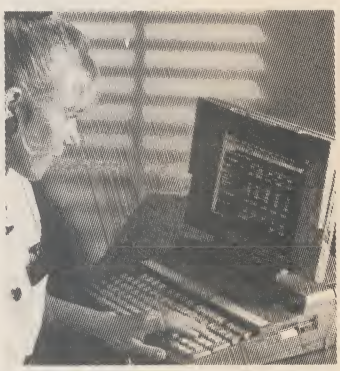
The international telephone system is already reckoned to be the world's largest machine, but trans-global data transmission could double in volume in the next five years.

• The growth of the personal computer market will slow dramatically in the early Nineties – but still double to 239 million machines by 1994, according to research company Dataquest.

It predicts that the trend towards a slow down will be bucked by notebook-sized portables. As computers get smaller the demand for processing power on the move will get greater, and portables will take 15 per cent of the PC market – 14.8 million machines – by 1994.

Dataquest analyst Steve Lair said: "It doesn't mean that every man, woman, child and parakeet in the world will have a computer on their desk, but we expect a significant rise in the number of computer products in the next four years."

Dataquest is also predicting that the home and education markets will see a large amount of growth in the early part of the decade. ■



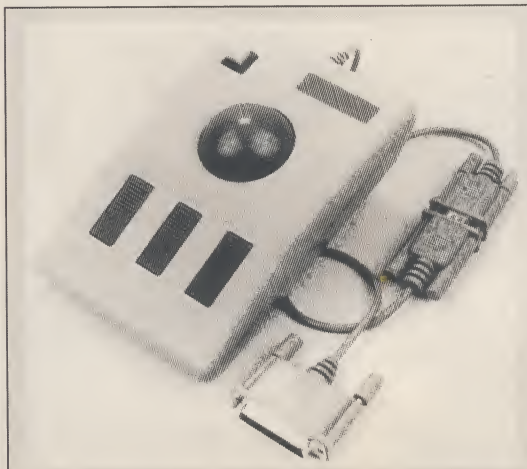
• Portables will be the growth area in the '90s.

Try before you buy

The concept of try-before-you-buy is now becoming common practice among software firms. Mindscape International has released two demo versions of top-selling Mindscape packages: *Zing* and *World Atlas*.

World Atlas is an atlas and gazetteer program for the PC, and the demo contains all the features of the real thing but with access limited to information about South America.

Zing is a 3D presentation graphics generator on the Macintosh or PC, for slide or DTP use. For more details contact Mindscape on 0444 486545. ■



• Maplin's tracker ball for PC compatibles.

Maplin's alternative to the mouse

After years of being frivolously related to such arcade classics as *Missile Command*, the tracker ball is at last gaining respectability after being incorporated into the latest trendy portables. Electronics wizard Maplin has picked up on this trend with the launch of its new PC compatible three-button tracker ball.

The major advantage of a tracker ball over a mouse is the fact that a mouse requires desk space in order to move around the computer screen. The tracker ball, on the other hand, sits in one place, taking up hardly any space.

The Maplin device also comes with a 'drag' button. This locks down and and helps the user to undertake tasks such as drawing long lines.

The tracker ball costs £59.95, and will fit any PC which has an unoccupied serial port. For more information you should contact Maplin Electronics on 0702 553935. ■

European technology broadcasts for 1991

MICRO TO STAR IN SATELLITE TV SHOW

The world's first international, technologically-oriented satellite TV station, The Technology Channel (TTC) will begin beaming programs to 850,000 homes in the UK and Europe from September 3 of this year, with daily transimissions from January 1, 1991.

A division of the European News Network, TTC will transmit on the Discovery Channel's transponder and will cover computing and computing-related topics culled from the US-based WITF TV Computer Chronicles show.

The new station will also broadcast adverts and educational shows provided by computer companies.

As The Technology Channel will broadcast to French, Italian, German and English audiences, communications at the station have been designed to receive up to six separate sound-tracks. This means that practically every European language can be catered for.

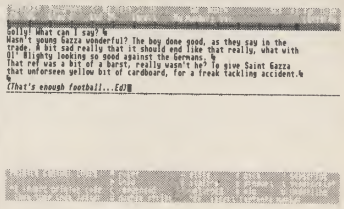
Anticipations are that programming will be offered in English, with possible added translations into Swedish, Dutch and German.

Until now the only regular television programming specifically targetted at the individual with an interest in computers has been Micro Live from the BBC. Although several ITV companies explored the possibilities of regular TV shows on computers in the mid-80s, mainstream TV has largely ignored computing.

The corporate-based Computer Channel, broadcast by Datavison, using British Satellite Broadcasting's (BSB) frequencies is also transmitting.

Neither BSB themselves nor rivals, Sky TV, have any plans to produce or broadcast computer based programs. However, a production company, working under the aegis of Channel 4, is about to begin work on a series which will be based on a computer games challenge.

For more information, contact the Technology Channel care of the European News Network, 24 south Frederick Street, Dublin 2, Ireland. You may telephone 353 1 679-5350 or fax 353 1 679-1593.


Golly! What can I say?
Wasn't young Gazza wonderful? The boy done good, as they say in the trade. A bit sad really that it should end like that really, what with Ol' Blighty looking so good against the Germans.
That ref was a bit of a barst, really wasn't he? Ie give Saint Gazza that unforseen yellow bit of cardboard, for a freak tackling accident.
That's enough football...Ed!

• *V4.21 – Protext upgrade due soon.*

Protext and survive

A new version of the popular word processor, Protext, is due out in August. It will be available for the Amiga, PC and Atari St and TT.

Protext v5.0 comes with pull-down menu support and retains the familiar command line system. Up to 36 files may be opened under a split screen environment. A new 116,000 word spell checker based on the Collins dictionary has also been included.

From the release date until 30th September you can hold of the upgraded version direct from publishers Arnor at the following prices: £125 for the full Protext v5.0 or £49.50 to upgrade. From October 1st these will cost £149.95 and £75 respectively. For more information call Arnor on 0733 68909.

The Fax, nothing but the Fax

A new half-card sized fax board is available for PC users that will work with both desk and laptop computers.

All the features which you would expect are included; auto-dialling, Mercury access, tone and pulse dialling and PABX auto-access. Additional software is available to boost the system. Datafax allows the board to send at 9600 bits per second (bps). There is also CCITT error-correction software.

The fax board costs £399. Datafax will set you back £95.00 and the error correction kit goes for £159.95. For more information, phone Action Computer Supplies on 081-903 3333.

All the fun of the format fair

Sam Coupé owners listen up! Amstrad PCW lovers bend an ear in this direction. Both these machines are to have their own 'villages' at the next All Formats Computer Fair.

Villages are small areas set aside for specific, and under-supported, machines, and at the next fair, the Archimedes, QL, MSX and even the Cambridge Z88 will have special villages set aside for them.

The Sam Coupé hamlet looks like being the centre of some attention, according the fair's organisers who said: "In addition to software and peripherals for the computer, it is likely that exhibitors will be selling the Sam itself."

The next fair will held at the extra-large Royal Horticultural Hall, Greycoats Street, London on the weekend of the August 4 and 5. Contact John Riding on 0225 447453.

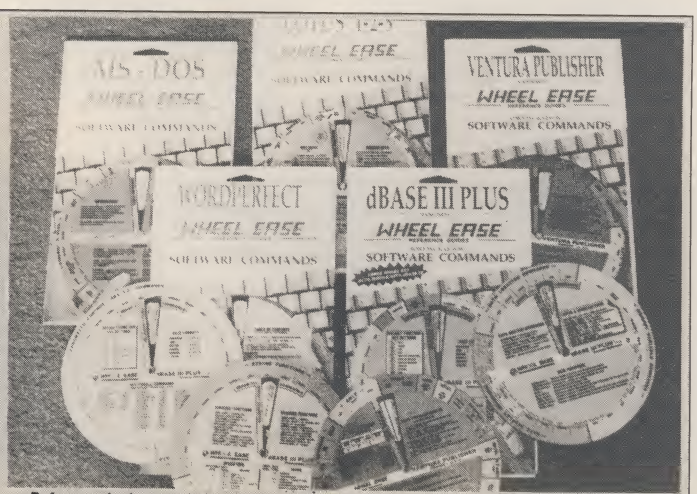
Wheel Easy

Questions, questions: will Gazza get a knighthood? Will the *Wheel Ease* guide take over from the manual?

The *Wheel Ease* system works on the simple principle that people don't want lengthy explanations of DOS functions, *PageMaker* options and Microsoft flight simulator moves. They want pithy answers.

Working like a slide rule, the circular plasic guides allow the user to pick a function, turn the wheel and line up the correct useage. Moves are being made to bundle them with software. Each guide costs £9.99. There are also Universal Templates – keyboard guides to you – which cost £19.99.

For more details, call the Computer Reference company on 061-627 5314.



• *Reference in the round: the circular software manual.*

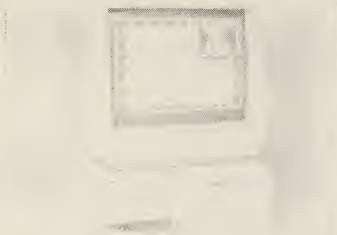
Peripherals for the PS/1

Only a week after the announcement of IBM's new PS/1 range of home computers, a Californian company, CMS Enhancements, has launched upgrade kits.

A 30Mb hard disk will be made available for $499 and an external 5.25-inch floppy drive for $199 to complement the machine's single 3.5-inch drive.

A 512K memory upgrade selling for $99 completes the range which will be bundled for an extra $600 above the PS/1's projected $999 price point.

It's not clear yet whether the upgrades will find UK distribution.



Like a S.e.X. machine

Dolan Electronics has announced availability of its new 16MHz 386 S.e.X. machine, a £770, 1Mb PC compatible bundled with mono monitor and 5.25 inch drive.

At a price claimed to be the lowest in the UK market for such equipment, the S.e.X can be upgraded to a system with 21Mb hard disk, colour VGA monitor and 20Mhz processor for an additional £615 – considerably cheaper than current full specification 386sx systems. ■

New lasers

Apple is about to unveil two new low-cost laser printers for £1,175 and £1,940. The more expensive model includes Adobe's PostScript interpreter.

The move appears to fall in line with the company's intention to offer a low-end modular Macintosh later this year. Apple's laser printer sales account for some thirty per cent of the company's $5.7 billion turnover – and 12% of the total laser printer market.

PC package fails to achieve expected impact

COMMODORE SLICES ITS STARTER PRICE

In the face of falling PC sales, Commodore Business Machines (CBM) has cut the price of its Starter Pack range.

August 1st will see the price of the entry-level, dual-drive PC10 and PC20 XT clones with mono monitors dropping by £100 – to £499 and £699 respectively. The price of the more powerful PC30286 will fall by £300, making it available in the shops for £899.

The Starter Packs were launched four months ago with an ambitious £3 million advertising campaign, but have not had the impact on the business market that might have been expected, given the ad spend.

Commodore has claimed that the price cuts are merely the second stage of a three-part marketing strategy aimed at raising the company's profile in the business hardware market.

However, a recent independent survey of PC sales shows that Commodore's grip on the market has slipped from 1.4 per cent in March to an undignified 'Others' rating in April.

The figures, which were produced by Wharton Information Systems, also show that IBM has managed to maintain a strong lead with a 13.1 per cent share in March rising to 19.3 per cent in April. Olivetti also enjoyed a 7.4 per cent rise in market share, while Amstrad slipped by 2.4 per cent, to a 13.3 per cent share of the PC market in April.

As this issue went to press, representatives of Commodore were unavailable for comment. ■

Give a monkey an Apple Mac and she will read her books

A Californian gorilla is being taught to use a computer to 'read' picture books.

Project Koko is a unique experiment in animal intelligence – a 12-year old gorilla called Koko is being taught to use a specially-adapted Apple Macintosh interactively.

The project is under the wing of computer-scientist-cum-freaky-ideas man, Alan Kay, as part of his work in Apple Computer's 'far out ideas' department

Kay freely admits that in his line of work only very few of the ideas he generates come to anything, but his past record shows it pays to experiment.

Koko the gorilla is already famous in US scientific circles for learning over 900 words in American sign language, and for having her own pet kitten and a collection of picture books which she 'reads'.

It was the gorilla's liking for picture books that partially inspired the project, as Alan Kay figured they could somehow be stored on computer and used to test her comprehension of such a system. The books were turned into a HyperCard stack, and the machine modified – Koko operates the Mac by touching buttons on the screen.

As with Kay's previous work, results from Project Koko may be used by Apple's Advanced Technology Group to improve future user interfaces. ■

Amstrad multimedia

While announcing the mould-breaking £399 'Double Decker' video recorder as 'the first major innovation in the VCR market for years,' Amstrad seems to have overlooked the unit's potential for the fledgling area of desktop video.

Offering users dual monitor or TV displays and tape to tape editing, the Double Decker will also allow desktop directors the means of using digitisers, genlocks and titling software to master computer-controlled videotape productions quickly and cheaply. Up to 16 hours of recordings can be made.

For desktop presentation, the machine also looks more than promising – a user can continuously loop between tape decks to provide non-stop playback for point of sale and information applications.

Of course, other observers may take a somewhat less favourable view of the machine. The Double Decker would seem to make life a little easier for video pirates. Amstrad is at pains to point out the law against copying pre-recorded videos, but the advent of tape-to-tape video machines could easily lead to the same abuses as those facilitated by dual audio tape recorders.

• The Amstrad Double Decker: offering a simple means of mastering Desktop Video.

NEW COMPUTER EXPRESS

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AMIGA

LISTEN HERE, AMIGA!

Computer voice recognition technology is still very much in its infancy. When you think about it, the problem of interpreting each word of a spoken sentence is fairly easy to overcome once you've solved the problem of handling variations in speech – accents, harmonics, etc.

For a computer to react and carry out tasks by actually understanding what you have said is still a long way off, however; we're talking true artificial intelligence here, which poses problems that software and hardware engineers have yet to overcome.

With its enormous processing power and sophisticated A to D technology, the Amiga seems like a natural medium for such developments. Thus it should come as little surprise that Impulse has released the first step towards grander horizons with the VoRecOne (VRO) system for the Amiga family of computers.

The package consists of a small box that plugs into the second joystick port of the Amiga, a microphone and the program disk. Before you can even start, you must teach VRO a few key words.

VRO samples your voice and stores it as a sound profile. Once you've taught it to understand your voice, you can then assign the different voice commands to actions. For example, if you taught VRO the word 'Files', it could be set up to display a list of files in the current directory.

When in use, VRO samples your voice and compares the digital data with all the sound profiles that you have created. If a close match is found (it would be impossible for you to say the same word exactly the same a second time!), VRO carries out the pre-programmed task.

When used in conjunction with multi-tasking, VRO can control just about any program from spoken commands. You could for example teach VRO the entire alphabet and then write documents within a word processor just by spelling each word out orally.

A device such as VRO could revolutionise Amiga multimedia. Used in conjunction with something like Amiga Vision on the 3000, a true man-machine interface could be established, banishing for good such archaic devices such as the keyboard and mouse. As you can probably start to appreciate, the possibilities are simply mind boggling!

To date, no one has picked up the UK distribution rights, but for those of you who can't wait for such an event, Impulse! can be contacted on 0101 612 566 0221. Price is $160.

DEVPAC FALLS ON 030

Oh deary me. According to a well known developer friend of mine, HiSoft's integrated assembler development system *Devpac* 2 seems to have run into problems with the recent release of the 68030-based Amiga 3000. Although HiSoft has been one of the most active campaigners for legal applications that abide by Commodore's standards, it seems the company have encountered problems with its own product on the 3000 – basically, it doesn't work. In a very hush hush manner, the company has now fixed the problem and is offering an Amiga 3000-friendly version to registered users for an upgrade price of £5.

DTP WAR HOTS UP

SoftLogic Corporation has announced the release of a major upgrade to its *PageStream* Amiga desktop publishing package. *PageStream* version 2 features many bug fixes (which were desperately needed) plus a whole host of new features.

In light of Commodore US's decision to include outline font support in the next revision of the Amiga operating system, SoftLogic has jumped on the bandwagon by providing direct support for Agfa/Compugraphic fonts such as those used by that other DTP hard hitter, *Professional Page*. To avoid claims of following a standard set previously by its main competitor (Gold Disk Inc), SoftLogic has also built in support for Adobe Type 1 fonts such as those used extensively on the IBM. This basically means that Amiga users who also have an IBM can share fonts between the two machines, therefore saving big bucks.

PageStream 2 now includes facilities to allow for absolute precision when laying out documents. *PageStream* allows for specification of beginning and ending angles of arcs in 1/100 degree increments and allows for rotation in 1/100 degree increments. You can now specify font sizes in 1/100th point increments, and position and size objects to the same 1/100th of a point. That's 1/7,200th of an inch – pretty impressive stuff!

Other new features include considerably larger page sizes and the ability to 'bleed' objects off of the page. Contact SDL on 081-309 1111 for more.

LOST SILVA

For many years, Dan Silva was recognised as one of the major software authors on the Amiga. His paint system, *Deluxe Paint* (I, II and III), is universally accepted as the Amiga industry standard which has done more to promote the Amiga as a serious graphics workstation than any other applications. However, when I spoke to Dan at the launch of *Deluxe Paint* III, he hinted that he was considering moving away from the Amiga in favour of the Mac and PC markets.

Now, several months later, it seems that he has done so with the recent news that Dan has parted company with Electronic Arts in the States. Dan is now working on a project for the PC compatibles for the US software developer, Autodesk (developers of the industry-standard *AutoCAD* system). Those close to Dan hinted that this may not be his last involvement with the Amiga. Let's hope that Dan does come back to his senses as his absence from the Amiga scene is a great loss.

• Dan Silva's DPaint III *in action. See Lost Silva for more.*

MILLION COLOUR AMIGA

Let's face the facts, 4,096 colours is no longer regarded as state of the art. OK, back in '85, when the Mac was still mono and the PC colour cards were an absolute joke, the Amiga reigned supreme. However, these days the joke is on the Amiga. Hopefully Commodore will upgrade the custom chips (again) to handle larger palettes, but until then you'll have to look towards third party developers.

Impulse! Incorporated has announced the release of its DCTV system (not CDTV, that's something entirely different!), which is a slow scan video digitiser that allows you to grab and display 24-bit images directly on your Amiga screen. The DCTV connects to the RGB port of your Amiga and is used to create the 24-bit screen image from a coded signal generated by the Amiga. Because the Amiga is internally displaying what it sees to be a normal high resolution view, the DCTV is compatible with most paint and animation packages.

For best results, Impulse! has also released several products to accompany DCTV. First up is *DCTV Paint*, a 24-bit paint package. Also planned are *DCTV Animator* and *DCTV RGB Converter*, which gives you analogue RGB video.

Jason Holborn

LOST PATROL

AMIGA GAME of the WEEK

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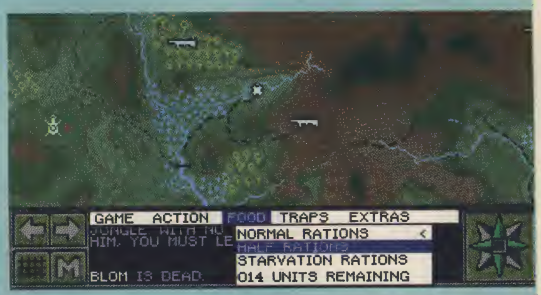

After months of advertising and more than a few previews, Ocean's long-awaited foray into the Vietnam scene has made its way onto the Amiga in the form of the now finished *Lost Patrol*.

You take control of a team of American soldiers whose transport chopper has come under attack from VC guns. The tail of the helicopter was hit causing the craft to go into a wild spiral and crash. The pilot was killed outright, but the only other injury was some lacerations to one of the troop member's legs. You must now lead your men across the dangerous terrain in an attempt to reach the base at Du Hoc. The game is controlled in most part from a map screen via a series of pull down menus, which are used to issue commands from marching to laying traps.

The quest is by no means easy, as there are swarms of Vietcong waiting in the shadows to attack you and your men. You can post scouts to give early warnings of enemy troops advancing on your position, but occasionally a surprise attack may be launched, causing you to take drastic action. Various action sequences are employed to portray the different battle scenes, for example VC machine gunners need to be taken out by way of a carefully thrown grenade, whereas sharpshooter skills are needed to dispose of the snipers hiding in the village.

***Lost Patrol*'s main strength lies in its presentation. The strategy screens are clear and well drawn and the intermediate screens add to the tense atmosphere superbly, using some excellent animation. Each of the**

arcade sequences has its own feel, from the out-and-out blasting of the trench scene, through the sheer concentration of the sniper sequence to the nerve-wracking minefield section.

Very few strategy games manage to combine such variety and sheer visual excellence to as much effect as Ocean has managed with *Lost Patrol*, since the gameplay is every bit as intriguing and involved as the excellent presentation. Even if wargames aren't your 'bag', you could do a lot worse than check out *Lost Patrol* and get involved in the tense and oppressive world of the Vietnam veteran.

Maff Evans

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ST

'CAREWARE' IS HERE

Micro Care has announced the release of the first ever charity licenseware compilation, launched to assist Child Concern, which is based in Derby and threatened with closure through lack of funding.

Not only is it an exceptionally good cause, but the ST compilation is an excellent investment too, costing the ridiculously paltry sum of £2.99. This fee includes a 50p donation to Child Concern, which may not sound a large charity contribution, but it's over three times the usual royalty on a licenceware disk.

As well as being available from all good PD libraries at this price, the compilation is also on sale at the same price direct from Micro Care and Wombat PD library. Buy from these sources and a whacking great £1.75 goes to Child Care, with the rest covering disk, duplication and mailing costs.

At this level of donation it's easy to see how, simply by availing yourself of this excellent opportunity, you can also do some good too. What are you waiting for? The address? Oops, nearly forgot!

Send your £2.99 (or more: I reckon a fiver would be in order) to: Paul Bocij, Micro Care, 19 Moore St, Normanton, Derby DE3 6SN, or Dave Burns, Wombat PD Library, 10 Tilly Close, Staddiscombe, Plymouth PL9 9DD. Tell 'em you heard about it in *Express*.

SADLY DECEASED

I've had a rather panic-stricken letter from one Mark Goodwin of Coldstream in Scotland, who's had trouble getting in touch with the Bath Computer Shack. That's hardly surprising, since it went into liquidation some time back.

If, like Mark, you have outstanding orders and have been expecting to hear from BCS, you need to call the official receiver Ernest and Young on 0272 290808. Speak to either C M Clapp or Andrew Sheridan about Chooseframe Motors Ltd, trading as Bath Computer Shack. Don't hold out too much hope, but it's got to be worth a try.

MOUSE GROUSE?

If you have never used any mouse but the one that came with your ST, you don't know what you're missing. Instead of the clumsy, ill-shaped device you drag wearily around your desktop, you could be whizzing about with a neat, lightweight device.

Such as? Such as the Logitech ST Pilot, which boasts such features as a self-cleaning ball-cage – try opening up your current mouse and look at the gunk accumulated there – and adjustable cursor sensitivity via a desk accessory. The price, £34, also includes three levels of that annoyingly-addictive game, *Pipe Mania*. Retire your current model and upgrade to an ST Pilot: ring 0753 37222.

ST SERVICE REPORT

A little while back, you may recall, I invited readers to submit reports on their experiences of mail order purchasing. One such has come from Jerome Pimmel, fortunate enough to reside in lovely St Peter Port on the isle of Guernsey (*that's enough Holiday '90 – ed*).

Jerome ordered the rather wonderful accessories suite *Harlekin* from Cambridge Business Software, and he received it within two days. He is also full of praise for Floppyshop ST for the prompt and courteous service he enjoyed.

Jerome was not so happy with another mail order company, but I shall refrain from mentioning its name until I've looked into the matter and given it the opportunity to explain itself.

If you've had exceptional service, exceptional either for its speed or its sloth, let me know: Service Report, Steve Carey, *New Computer Express*, 30 Monmouth Street, Bath BA1 2AP.

COREWARS

As well as the latest update to the excellent South West Software Library, Martyn Dryden has sent me *CoreWars* (disk 977) by Stephen Tavener.

You may already be familiar with this 'programmer's game,' based, I seem to recall, on A K Dewdney's *The Armchair Universe*. Two programs, operating concurrently in the same segment of memory, try to corrupt each other.

But this is truly an exceptional implementation of it, being fully mouse driven and featuring an integrated editor and assembler. Up to five programs can run simultaneously and there is also a great Tournament facility. The battlefield sequence makes full use of the ST's colour graphics.

Try it for yourself for just £3 (including p&p) from The South West Software Library, PO Box 562, Wimborne, Dorset BH21 2YD.

It makes an excellent introduction to what Prince Charles (hope his arm is mending nicely) would undoubtedly call the 'whole thingie' of public domain software. If you haven't already linked up with one of the excellent PD libraries, check out the ads in this issue of *Express* and do so at once!

Steve Carey

FAIR REPORT

Greetings to those readers I bumped into – several of them literally! – at the recent 16 Bit Show, held at the Horticultural Halls. The show was exceptionally well attended, with more than 21,000 visitors flocking in their anoraks. I've passed on your comments about Express to the Editor. I can't promise that we will be going up to 300 pages and cutting the cover price, as one gentleman suggested, though.

Attracting a good deal of attention, and rightly so, was Tower Power, a recent import from Germany (where there are over 600,000 STs – over twice the number in the UK). Boss Karl Brandt was busy demonstrating this space-saving and peripheral-protecting tower case for the ST, which takes the innards of your ST off your desk, out of your way and safely on to the floor.

It's ideal if you use Spectre GCR, the ST Macintosh emulator, Hypercache, PC-Speed or any other hardware peripheral, for it means it can be neatly tucked inside the Tower and out of harm's way. Musicians on the road, whose STs tend to get very cluttered and fragile around the MIDI in and out ports, would surely benefit from having all that stuff gathered together and inserted into a Tower system.

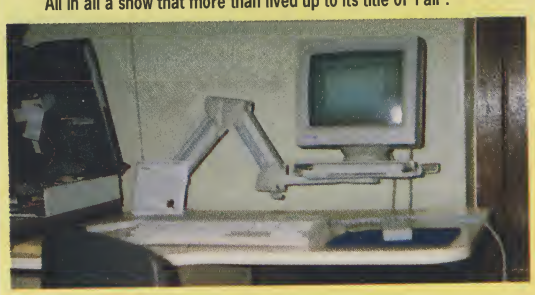
Tower System 1 for the Mega costs £129.50 as a solder-free DIY kit, while System 2 for the STFM and STE is £165: the difference in price is because the Mega keyboard, of course, already comes as a separate unit.

If you are, like me, nervous about the idea of pulling the guts out of your ST and attempting to re-assemble them in a brand new metal casing, the Tower System can be fitted for you at an extra £75. Alternatively you can order a brand new ST, in your own specification, set up in the appropriate Tower. Call Radio Service Company on 071-708 5755 for more details.

Other stalls well worth visiting included Condor, which was demonstrating version 1.4 of the £350 plug-in PC clone for the ST – Supercharger. New features include an option to connect several Superchargers together and a hot key, enabling TOS/DOS switching without rebooting, so you can leave your PC software up and running while you get back to your ST program. Ring the good folks at Condor on 0734 810066.

Also on view was *Take Control*, version 2, the £300 DTP package for music on the ST. It's claimed to be the only professional program of its kind for the ST, and it incorporates several new features, including real time MIDI input, playback of scores, graphics functions and automatic scoring. Call Take Control on 021-706 6085.

All in all a show that more than lived up to its title of 'Fair'.

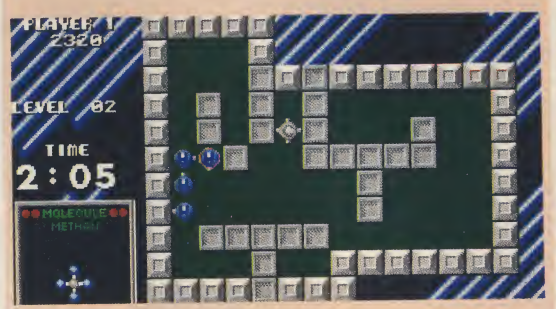


• *Tower System: feel the power.*

ATOMIX

ST GAME of the WEEK

Thalion/US Gold • £19.95



The last game to attempt to liven up chemistry by turning moleculor structures into a challenging computer game was called *E-Motion*. *Atomix* treads much the same ground in *Thalion*, with the objective being to assemble atomic structures.

In each level, you're presented with the atomic structure which you need to recreate. Your job is then to pick up atoms in the level and move them around a maze of walls so that they come to rest in such a way as to form the structure shown.

It sounds simple, but you can't just pick up an atom and position it anywhere you like. To move the atom you select it by moving a joystick over the top of it and then clicking.

By moving up, down, left or right you indicate the direction that the atom is going to take. Once the atom starts moving, it shifts either vertically or horizontally and only comes to rest when it bumps into either a wall or another atom.

The puzzle element comes in arranging the atoms so that they come to rest in exactly the right position. This isn't easy because it means working out the best place to build your structure and the correct order in which to move the atoms.

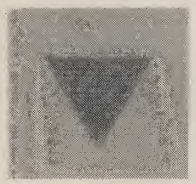
All the levels have a time limit ranging from two minutes for easy levels up to four minutes for some of the near-impossible ones. Each time you see a new level you spend much of this time working out the best place to build your molecule. Although this means suffering defeat the first time you tackle it, at least you're prepared next time you reach the level.

In between every five levels there is a bonus challenge, where you need to move a set of tiles to form the pattern indicated. These tiles move in the same way as the atoms. If you complete the bonus levels you pick up extra points.

This is a wonderfully-addictive challenge which in many ways is more appealing than *E-Motion*. The puzzle element here is much more thought-provoking and you don't need to be a master of the joystick to win. *Atomix* is undoubtedly one of the most engrossing puzzle games to hit the ST in a long time. The only real criticism is that there aren't enough levels to satisfy the puzzle pro.

Mark Higham

PC



PCB, HEAL THYSELF

One of the most interesting bits of news to come out of IBM this year details the results of research carried out by the company's TJ Watson Research Center in New York.

A newly-patented repair process developed at the lab automatically mends defects in the tracks laid onto printed circuit boards (PCBs). When the elements of a PCB are etched out of a copper-covered sheet of fibreglass, any narrowing of the tracks or open circuits can be very hard to discover and still harder to repair.

The new process, patented by C Julian Chen for IBM, involves putting a high current through the tracks on the board, while it's immersed in an electroplating solution.

Any narrowed track will grow hotter than any surrounding normal-width tracks, as resistance to the current will be higher at the narrowest point.

Metal is automatically plated on to the narrowed track after being eroded from other parts of the circuit. Because narrowed tracks or open circuits are a tiny fraction of the whole length of the track, the amount of erosion from the rest of the circuit is negligible.

The most innovative parts of the process are that it is self-locating, automatically finding the area of damage, and self-terminating. As the track widens to the same width as its surroundings, the resistance decreases and the temperature of the track drops.

IBM hopes the process will speed repair of damaged boards and lower the reject rate of new PCBs. It's one of those inventions that leaves you wondering why nobody thought of it sooner.

UPSETTING THE CART

If you have a LaserJet printer and find the price of HP font cartridges exorbitant, *SuperFonts 25/1* should have you rubbing your hands together. *SuperFonts* is a set of down-loadable HP soft fonts directly compatible with the HP font cartridges, labelled from 'A' to 'Z'.

Quite why it's called in part 25/1 is hard to fathom, as there are only 23 cartridges in the set, with no I, O or S designations.

The soft fonts and the cartridge generator take up between three and four megabytes of hard disk space, but once the fonts have been created, you can delete the generator and recoup a staggering 2.5Mb.

Fonts can be handled in exactly the same way as cartridges, except that you type 'Insert' or 'Remove' from your keyboard, rather than inserting and removing physical cartridges from your laser printer.

Software that's geared to work with the HP fonts will be able to detect and print with the *SuperFonts* equivalents, and know no difference.

All this facility can also save you a lot of money, though your laser printer must have enough memory to handle all the downloaded fonts.

The cartridge fonts are, of course, in ROM. *SuperFonts* costs £143.75, against around £100 for each HP font cartridge.

SuperFonts is from Metro Software, the US company that brought you *LaserTwin*, the HP emulator for dot-matrix and inkjet printers.

The fonts will work in conjunction with *LaserTwin*, so you can have the full compliment on your 24-pin as well. Metro Software is on 0491 579857 and Software Paradise, which supplied the package, is on 0222 887521.

GIUS A BREAK

I'm conscious of giving more space to the multi-nationals in this column than to the little companies, which often have the really innovative products.

The current round of computer shows lends credence to the idea that the small guy is being squeezed out by the man with the muscle and the big PR budget.

There are fewer and fewer stands round the edges of these shows – the price of floorspace continues to increase, and if you're just starting out with a new product, it can be a big gamble to invest all in a few day's sales.

So, any small companies that have interesting new PC products, please use this column as a forum – at least an introductory one.

Send me details of your new hardware or software, or better still, include a review sample and I will endeavour to bring it to a wider audience through generous coverage in *Express*.

Most items that come through on a week-by-week basis get some space in this column. Make part of that your very own.

Anyway, to reach me, you can write to the PC column, *New Computer Express* magazine, 30 Monmouth Street, Bath BA1 2AP. It will take about a week to be forwarded on, but do not despair!

Simon Williams

THUNDERSTRUCK

PC GAME of the WEEK

Millenium • £29.99

• Thunderstruck: *good name, good game.*

In these days of strategy games, graphic adventures and flight simulators, it is easy to put down the standard shoot-'em-up as a puerile form of entertainment. Nevertheless, not much can beat a spot of mindless alien-bashing after a hard day's work.

Unfortunately, all too few actually combine the ingredients necessary for a really good example of the genre. It is of course important that it looks good on screen, but it's also important that the aliens gain intelligence by just the right degree with each successive wave, that your ship has the right characteristics and is easy to control, that the game gets harder each time, but not so hard that you give up.

Get the combination right, and you've got a winner addictive enough to keep you at it all night. Get it wrong, and you've got a waste of money. Thankfully *Thunderstrike* gets almost all the ingredients right.

First of all the graphics are superb, particularly on a VGA screen where the game makes full use of the 256-colour display mode to give a graduated blue sky, a subtle patchwork of green fields and enemies that positively pulsate. Everything is depicted in solid 3D, and movement is astonishingly fast.

The plot is fairly straightforward, designed to provide a wide range of enemy craft, a limited amount of tactical play, and 50 progressively harder levels. The game only falls down a little on control, as it does not support the IBM's joystick and is very sensitive when using a mouse.

Not as addictive as the superb *Resolution 101*, but a fine example of the genre nonetheless.

Matt Nicholson

PORTABLE VICTOR

Portables continue to grow more compact, with decreases in hard disk size and smaller mother boards. The latest to arrive on my desk is the V86P, from Victor.

This slightly over A4-sized 8086-based laptop weighs in at a respectable 3.8kg and comes with a good compliment of ports, a decent keyboard and a 'no-worse-than-average' supertwist LCD display.

There are two versions of the machine currently available; twin 3.5-inch floppies or a single floppy and a 20Mb hard disk.

The hard disk version of the machine has an automatic cut-out on the drive to save its battery, though the start up and close down noise is probably intrusive enough to get BR guards quoting the byelaws at you.

• *The latest, and the quite good, laptop PC from Victor.*

The access time for the drive is a slow 58ms, but is still a lot snappier than a twin floppy system.

The keyboard is compact, while keeping most keys in their proper places. The [Return] key is rather too small for comfort and it took a while to stop hitting [#] by mistake.

Otherwise, though, it's usable over prolonged periods. Behind the keyboard and under the hinge runs a row of LEDs showing disk usage, the various keyboard locks and low battery.

The battery pack, which is a long, thin cylinder sliding under a hatch along the back of the V86P, is claimed to last for around 2.5 hours. In fact the low battery LED started flashing on hard disk access after about an hour.

This flashing is in itself confusing. Do you start re-charging as soon as you see a flash or when the indicator stays lit permanently? Better to have a visual and audio warning as a once off when the voltage drops below a threshold for a pre-set time.

The display on the V86P is the usual dark blue on light green supertwist LCD, and as usual needs to be used in good light – daylight's best. This is ideal for working out in the garden, though you may need to position yourself carefully under artificial light to use the machine regularly indoors.

This is the same with most l.CDs, of course, though a back-light would make a considerable difference. It would also be useful if the display could hinge back further to a flatter angle.

The V86P is a good, solid, base-level portable, attractively styled and with a smaller profile than many. It comes bundled with MS-DOS 4.01 and a decent padded carrying bag.

One of the nicest things about it, though, is its pricing. Following a recent price-cut, you can now get the twin floppy model for £805 and the hard disk machine for just under £1,150.

You may contact the good people at Victor for more details, on the following: 0494 461641.

SPECTRUM

BUILDING DOWNTOWN

Sim City from Infograms is a 16-bit game that's had several hectares of glossy magazine print devoted to it while prompting whole office loads of computer journos to faint with excitement on loading.

The announcement of a Speccy version was greeted with the usual amounts of superior laughter, smugness and downright unkind comments about our computer's apparent inability to pull off a respectable version.

It looks like doubters are going to be proved wrong yet again when *Sim City* is released for the Speccy very soon indeed. Previews suggest an excellent conversion.

The idea behind *Sim City* is to design and run a city, imposing taxes, building things and generally trying to keep the inhabitants as happy as possible. Start saving money to the measure of £9.99 – and keep an eye out for the definitive review in *Your Sinclair*.

THE BEST OF PD

Graham Mills of Perth wants some info regarding the purveyors of that all round good thing, public domain software. Surprisingly, Speccy PD has only been widely available in the last year or so but already there are a few suppliers with shelves healthily stacked with the stuff.

Graham told me he was most interested in Plus 3PD – so the best place to direct him most certainly is the Plus 3 User Groups PD library, which I'm pretty sure is also open to non-members.

I've just seen the latest list of Speccy PD, and it numbers a pretty impressive 96 programs, not including eight volumes of C/PM software for owners of Mallard's Plus 3 C/PM package and loads of finest quality foreign PD that's been uncovered by head librarian Gary Stimson.

Prices are reasonable, and the programs range from Amiga-style demos like SpecTec to more boring, but no doubt useful, Comms utilities. Anyone who wants to see what's on offer should send an SAE to 4 Fox Covert Drive, Roade, Northants NN7 2LL.

Additionally, if you don't own a Plus 3 – or come to think of it even if you do – the Speccy Sector PD library is well worth contacting. I haven't seen an update for a while, but at last glance organiser Owen Brown was offering loads of Speccy PD on tape or disk at next-to-nothing cost. Further details with an SAE to 1 Roxwell Road, Chelmsford, Essex CM1 2LY.

Last source of PD worth mentioning is the consistently excellent electronic magazine *Outlet* (605 Loughborough Road, Birstall, Leicester LE4 4NJ). Every month this offers a great mix of articles, tips, news and several very high quality pieces of software placed in the public domain. Read the review of the latest few issues next column or obtain more details by performing the traditional SAE sending custom.

IT'S ENIGMATIC

The latest issue of the *Enigma* tapezine is out now and it provides another dose of fun for all Speccy-owning families. As well as the usual mix of news, reviews and chat there are comprehensive columns dealing with adventures and programming and everything's excellently presented with a host of special FXs and an accompanying soundtrack.

There's even more in this issue, including *Plus D Hacker* by Steve Nutting and the first part of *Dr Jekyll and Mr Hyde*. Indeed, there is something for everyone if ever I saw it, and the issue is well worth the £1.99 asking price from ESD, 15 Westfield Road, Inverurie, Aberdeenshire AB5 9YR.

Robin Alway

SAM COUPE

HOW TO DO IT

Here's a truly excellent tip for anyone who's grown bored and disillusioned with the standard, plain vanilla Coupé system font. A genius called Ryan Gilmour has worked out how to redesign it.

Huge thanks and a more substantial reward in the form of a scintillating, free piece of SAM software is on it's way to him.

Here's what you have to do. First design your font in Flash!'s excellent font designer, and then save the file to tape or disk, using a sensible file name like 'Bold Font' or 'Small Font', etc, so that you can retrieve it later on.

Then you must exit to BASIC and 'Load' font's code into memory using `LOAD <FONT NAME>" CODE 16385` (or for more advanced users, wherever in memory that you wish), where `<FONT NAME>` is the appropriate name of your font. Don't despair, you will not notice any difference to the system font yet.

Type the following two Pokes:

```
POKE SVAR 566,1: POKE SVAR 567,63
```

Now, if all went well, the system font will have changed to whatever font style you have designed. If at any time you wish to swap back to the system font then type the following two Pokes:

```
POKE SVAR 566,144:
POKE SVAR 567,80
```

Also, you lucky disk drive owners could place the following few lines of code into your 'Auto' program to automatically change the system font:

```
10 REM Auto Program
20 LOAD "<FONT NAME>" CODE 16385
30 POKE SVAR 566,1
40 POKE SVAR 567,63
50 REM Remainder of Auto Program
```

Brilliant. Thanks Ryan. If anyone's got any other tips, pokes or routines for the Coupé send them to me at the usual *Express* address. Eternal gratitude and a free piece of SAM software could be yours.

Robin Alway

PCW

SOCCER SPECIAL

As Garth Crooks once said, football's football: if it wasn't, it wouldn't be the game that it is.

No such gems of Colemanballs from the last World Cup, though John Motson must have come close with this one: "If the teams in England's group finish level on points, then positions will be decided on goal difference," he said. "Especially if all the games are drawn."

Anyway, maybe prompted by the sounds of Luciano Pavarotti singing *Nessun' Dorma*, Mark Wright (no relation, surely?) of Bristol asks if there are any football programs for the PCW.

Yes there are, Mark. The excellent *Match Day II* is sort of computerised Subbuteo game where you control players on screen against the computer. The game costs £14.95, and the graphics are astonishing for the PCW (but don't compare with, say, an ST or Amiga). Try your local software shop or Ocean on 061-832 6633.

Alternatively you can try a football management simulation such as *World of Soccer* from Coda (£15.95 on 081-789 9551). This is a text-only game in which you select (real) players for England; the PCW 'plays' matches, gives you a commentary on each match and tells you what's happening injury-wise after each game. You can see how you fare in the European or World Cup.

FAX AT YOUR FINGERTIPS

The Amstrad FX9600T fax machine is now out, boasting compatibility wth your home computer (ie your PCW).

As well as the normal fax functions you can hook up your PCW to it and fax a text document without putting it to paper first. Handy, but not a great money-saver: there's no corresponding paperless receive-text-to-disk function that would save you loads on fax paper.

The FX9600T is well-priced for a fax at £689, but the PCW compatibility is not worth worrying about to be honest.

BY THE BOOK

At last a new book for users of *LocoScript* 2's add-ons *LocoFile*, *LocoFont*, *LocoSpell* and *LocoMail*.

Ian Sinclair's book *LocoScript 2 with LocoMail, LocoSpell and LocoFile* costs £10.95. The sections for the add-ons are a bit too thin, and much of the book is about the word processor; these oversights are a shame.

The book does represent reasonable value though. If your local bookshop doesn't have it in stock, you can find it by the ISBN number, which is as follows: 0 632 02861 0.

Rob Ainsley

GOING GREEN

Fed up with not being able to read your *LocoScript* screen on these bright summer days?

Owners of *Flipper* can use it to reverse the screen out, black-on-green. Set Flipper up with CP/M in one half and *LocoScript* in the other. In the CP/M half insert your CP/M disk and type `PALETTE 1,0 [RETURN]` then flip to *LocoScript*. The command to restore normal colours is `PALETTE 0,1`.

MSX

REDUCED!

When things are quiet – as they are in the computing world at present – bargains can be had for the asking.

For example, K-Soft Computers of Retford has decided to compete in the budget-priced section of the games market with many titles now on offer for the sum of £2.99, and with multi-game tapes at only £5.95.

For the adventure freaks, several titles of this type are now only £3.99, including *The Crypt*, *Mystery Mansion*. and *Battlestar*. Furthermore, *Division One* – the football management simulation – is now only £2.99.

You might remember that I reviewed this latter game, saying that it needed to be reduced in price if it were to compete with the likes of *Football Manager*. Obviously someone reads my column and takes note of my opinions.

For a copy of the latest price list send an SAE to K-Soft Computers at the following address: I Stanley Street, Retford, Notts DN22 7AE.

UPGRADE PARADE

Owning an MSX 2 computer, means not only that you have a computer with great graphics upon which you can play brilliant games, but the 80-column display allows you to run programs that the MSX 1 computer cannot handle.

Probably the biggest bonus is that you can run CP/M version 3 just as you can on the Amstrad PCW. Of course running CP/M is also possible with the Spectravideo computers that have an 80-column adapter.

I have no idea if anyone has actually used software designed for PCW computers (running under CP/M) on an MSX 2 – if you know if this has been achieved please let me know.

I do know that one stumbling block to this MSX/PCW compatability is the strange format that Amstrad in its infinite wisdom chose to use – namely the 3-inch disk.

This should not be too much of a problem though, as quite a few public domain libraries have a disk format translation service, and it should not be too difficult to convert a 3-inch to a 3.5-inch disk.

For those who wish to try CP/M on their machines, you need the operating system on disk, and, of course, at least one drive – preferably two.

You can obtain a copy of CP/M from the MSX software library, 396 Park Lane Maghull, Merseyside. If this doesn't pan out, it may mean a trip to Holland – not many pockets will run to that expense, however.

I can recommend a couple of books on CP/M: *The Software Bus*, published by Sigma Technical Press, and *The CP/M Plus Handbook*, by Digital Research and Amstrad Consumer Electronics PLC.

As I delve further into the subject of CP/M, which I must admit is fairly new to me, I will then pass on this knowledge in future articles.

A quick PS to this subject, does any MSX user know if the Spectravideo 80-column adapter is usable on the MSX 1? If so, I would like very, very much to hear from you.

Keith Neal

CPC

EASY PC

How many times have you wanted to transfer text files, say, from your CPC to a PC, or vice versa?

There must be many people who work on PCs in the office, for example, but have CPCs at home. Or maybe you've just written a best-selling novel on your CPC, but your publisher wants it on a 3.5-inch PC disk?

Traditionally, the only way to transfer files from one machine to the other has been by serial link. For this you need a number of things. Firstly, your CPC will need a serial interface. Secondly, you'll need a serial lead. Thirdly, you'll need comms software for both the CPC and PC – and probably the best part of a weekend to work out the comms protocols! And finally, the two machines will have to be side-by-side to connect them up.

That last point sounds about the most obvious, but it's certainly the greatest inconvenience, especially if you really do use a PC at work and a CPC at home.

You either have to lug one or other machine to the car/bus/train and probably do yourself a mischief in the process, or, on the other hand, you could get a serial link a dozen miles long...

However, all these troubles could be at an end, thanks to a sudden surge of interest in file transfer programs. Basically, with the right software, a plug-in 3.5-inch second drive for your CPC can be made to write to and read from PC disks.

One such program comes on Romantic Robot's £9.95 *RODOS Extra* disk. RODOS is a replacement disk operating system which makes proper use of the full 800K capacity of 3.5-inch disks, and costs £29.95.

You'll need such an operating system anyway if you buy a second drive – and you will often find that RODOS comes free with your external drive. *RODOS Extra* is a batch of additional utilities which include a CPC-PC-CPC file transfer program. The good news is that the disk is only a tenner; the bad news is that it transfers files very slowly. Romantic Robot can be reached on 081-200 8870.

The newest file transfer utility on the market comes from Siren Software (061-228 1831), one of the leading suppliers of second drives. *PC-Trans* costs £24.95 and is much faster than *RODOS Extra* when writing to PC disks. However, it's almost as slow when reading from them, and you do have to use disks formatted by *PC-Trans* itself.

Disks formatted on a PC are no good, and if you try to write to a *PC-Trans* disk with a PC, you'll just get corrupted files.

Best of all, though, is *Multi File Utility*, a program first sold by Moonstone years ago but since dropped. The CPC user group WACCI has dug it out and dusted it off, however, and the group is now offering it for sale again.

Price has yet to be finalised, but looks like it might be around £30. You can always give WACCI a call to check – the number is 081-898 1090.

MFU is fastest of all, taking just two minutes to transfer a full CPC disk to PC disk, and will carry out numerous other transfers as well, being designed originally to port CP/M programs from all sorts of weird and wonderful formats onto CPC disks.

All three of these programs will do the business, but with varying degrees of efficiency. You have to remember though that the CPC and PC are still completely incompatible. Only ASCII text and data files can be transferred successfully – programs and applications won't.

TENNIS ANYONE?

Well, we're bang in the middle of Wimbledon again, and that fact has not escaped the software houses. Those that aren't currently devoting all their efforts to yet another World Cup footie outing are launching a game to add to the crop of tennis sims.

***International 3D Tennis* from Palace, however, is not your average joystick-waggling sports sim. It's a brave attempt to produce a genuine, 3D tennis sim, like *Driller* with balls... er, as it were.**

The players are not represented by sprites at all, but by some rather oddly-proportioned wire-frame graphics.

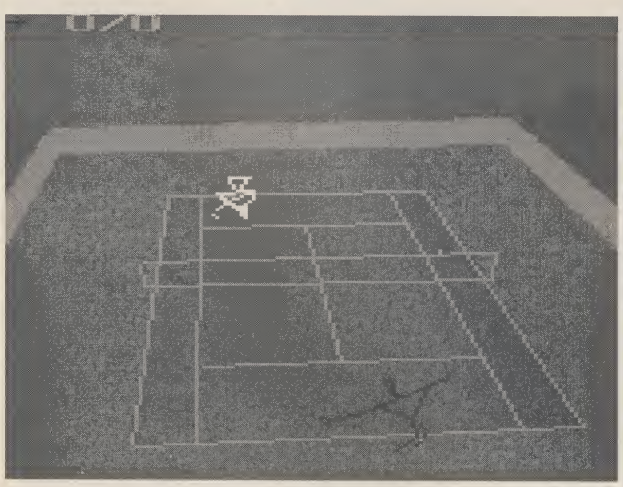
And the courts are minimalist to the extreme. There's no real detail, just blocks of colour – and you see why when you start playing. The programmers haven't cheated at all. Everything really does move in 3D. You can even watch the on-court action from different viewpoints in the stands!

Gameplay-wise the graphics pose a difficulty. The transparent stick-men players lurch around the court like something out of a horror movie, making the game difficult to follow, while seeming as if it might have been written 10 years ago.

Play for a bit longer, though, and you soon work out that *International 3D Tennis* really is very good indeed. For a start, there are four skill levels, ranging from Amateur, which any fool can manage, to Tennis Ace, which would give that old automaton of the real world, horrible Ivan Lendl himself, a hard time.

For £9.99 on cassette, £14.99 on disk, you'll get a tennis sim which will make your friends hoot with laughter the first time they see it, but which you'll still be playing long after their favourites have been consigned to the bin.

***International 3D Tennis* is worth a look.**



• International 3D Tennis *looks a tad strange, but it's a corker.*

DEATH CONVOY!

Anyone who managed to finish off the opposition in Titus's *Fire & Forget* should just about have got his or her breath back by now. Which is just as well, because *Fire & Forget II: The Death Convoy* is on its way....

This time, a terrorist convoy is threatening the world with nuclear annihilation. It's your job to take to the road – and the air – to pursue the terrorists, destroying all the varied enemies in your path as you work your way towards the front of the convoy and the final battle.

As with *Fire & Forget*, you control a car which can also take to the air as it slugs it out with the bad guys. Titus is promising superb animation and fast 3D action as you battle 60 different enemies, collecting weapons, ammunition and fuel along the way. We wait with bated breath...

PLAYTIME

I've just received news of a new, independent educational software house appearing on the scene. Exeter-based TECS (Top-notch Educational Computer Software) is run by Darren J Davies, whose first product is *Playtime*. The Amstrad version will be out shortly and will, he says, feature the large, 16-colour graphics, sound and synthesised speech of the already available Atari ST version. The price will be £8.99.

TECS also plans to offer a programming service to schools and local authorities, and is particularly interested in developing hardware/software for the disabled.

You can find out more by writing to TECS at 45 Wear Barton Road, Countess Wear, Exeter, Devon EX2 7EH, or phoning 0392 875409.

Rod Lawton

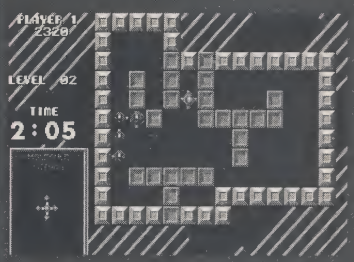
YOUR FORMAT

MACHINE SPECIFIC COLUMN

AMIGA 8

• *Take an Amiga-based trip to Vietnam.*

ST 10



• *Chemistry set piece on test.*

PC 11

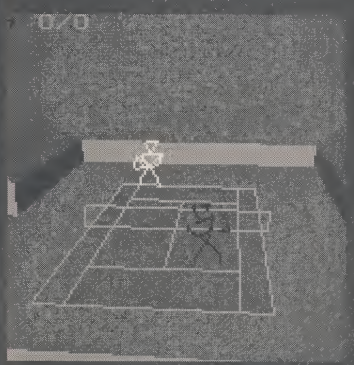
Spectrum 12

SAM Coupé 12

PCW 12

MSX 12

CPC 13



• *My oh my those stick men can wheel.*

QL 14

BBC 14

Archimedes 14

C64 11

C64

POKE A POKE POKE

I can't find any POKEs for the *International Soccer* cartridge of great age and fame. Still, there are a few more to choose from, so we'll start the week with *Bionic Commando*, and tell you that when a man appears you can stop the timer by pressing 'Shiftlock' and 'l'.

Another POKE-less tip is for *Parallax*, where the five passwords are 'Stack, Jewel, Parch, Salon and Globe'. As the next one requires lots of POKEs I will leave you for this week with *Operation Wolf* and the news that `POKE 36007,165` gives you infinite energy, `POKE 35103,165` gives you infinite bullets, `POKE 35107,173` gives you infinite cartridges, `POKE 34952,154` gives you infinite bombs and `SYS 16960` starts it all off again.

CHEAPO SOFTWARE

Hidden among the pages of *Crystal News*, the fanzine produced by Crystal Unicorn, I have found software bargains.

As well as a cheap 'game of the month' and a demo disk containing the best of the month's demos and utilities, a flick of the page reveals such items as... but why should I tell you? Write to Adam Whittle at Redways, Harps Hall Road, Walton Highway, West Walton, Wisbech, Cambs PE14 7BJ – with SAE.

Pete Gerrard

PASS ME THE MENU

Whenever I see a program listing containing masses of 'ifs' and 'thens' I always want to alter it and make it take up less memory. A common culprit seems to be the program that operates from a menu system.

If you have seven items to choose from (for example) and seven 'If...Then' statements to sort out, you should know that you can accomplish your desired effect in less cumbersome ways.

Suppose the menu options require the user to press one of the keys 'QWERTYU'. The following lines of code will do nicely:

```
100 MNS="QWERTYU": A=0: B=LEN(MNS)
110 GET AS: IF AS ="" THEN 110
120 A=A+1: IF MIDS (MNS,A,1)=AS
    THEN ON A GOTO
    200,300,400,500,600,700,800
130 IF A=B THEN PRINT "WRONG KEY
    PRESSED": GOTO 100
140 GOTO 120
```

In this shortie the 'On A GoTo' part takes us off to seven line numbers, which would become (in your program) those line numbers which signify the start of the seven routines that are covered by the menu.

In evidence there are five lines of code, as opposed to perhaps double that if you'd not known better and used hordes of 'Ifs' and 'Thens'.

And, in case you're wondering why I didn't just say B=7 at the start of the program, well, I merely wanted to keep everything as general as possible.

QL

ANGLIAN WORKSHOP

The recent workshop in Thetford organised by the East Anglia Quanta subgroup was highly successful by all accounts, with attendance well into three figures.

Star of the show has to be a 68020 32-bit processor shoe-horned into a standard QL. The prepetrator of this feat was inviting all and sundry to run software on this beast – to check its compatibility with a standard QL.

The workshop was also notable for the appearance of Quanta T-shirts and sweatshirts. The Quanta logo is tastefully depicted in black, together with a representation of our beloved QL. You'll have to join Quanta if you want one – phone David Johnson on 0789 842543 for more information.

Quanta is now in its seventh year, by the way, making it one of the longest established groups around.

PD PACKET PROGRAM

Amateur packet radio enthusiasts using a QL might be interested in a PDcomms program for the QL available from Siskin Electronics Ltd, 2 South Street, Hythe, Southampton, SO4 6DB. Tel: 0703 207155. A local amateur using this program speaks very highly of it.

The program is only suitable for the PacCom TNC (the box that goes between the computer and the transceiver). Siskin doesn't have a QL (shame!), so program cartridges are available on loan. For QL users with a Kantronics or AEA TNC, a program (non-PD) written by Paul Hounslow, *G4YFE*, is also available from Siskin.

STATISTICS ON THE QL

Readers wishing to perform statistical analysis on their QLs will have been disappointed at the lack of suitable software – despite the glut on other machines like the PC. Several statistical programs have now been donated to the Quanta software library, however. Both non-parametric (distribution-free) and parametric tests are available.

John Torofex

DAMAGED FILES

If you find that a *Quill* document won't load (most likely if you are still using Microdrives), the file has probably been corrupted in some way. If you don't have a back-up copy, try importing the document file. You will find that the document now contains lots of extraneous garbage (*Quill* attaches a header to the text), but this can be edited out, leaving you with the original document.

If you are working on a large document, you might find that *Quill* creates a temporary file called def tmp. This file is often quite large, reducing the available space. It's quite safe to delete this file, even if you intend to do more work on the document.

BBC

MORE SOFTWARE

A company called Scetlander has lept into action. The result being a glossy brochure full of good BBC software landing on my desk with a metaphorical thump this week.

Scetlander spokesperson Fiona Stewart said the company is a joint venture between the Scottish Council for Educational Technology (hence the SCET) and Scotlander: you can contact the good people on 041-357-1659.

Latest software is a soon-to-be-released version of *Hooray for Henrietta*, which is aimed at 5-12 year olds learning maths in the National Curriculum. From the brochure, this appears to be packed full of useful features.

As for the rest of the catalogue, its a crime to pick out any one piece of software, so why not give Fiona a call?

THE NEXT GENERATION

BBC *E-type* is a long-awaited version of the Archimedes classic – so does it keep pace with the original? No, but don't let that put you off. With your blonde companion you drive an *E-type* Jag round a selection of different circuits against the clock, and against other drivers too!

The road is chock-full of obstacles – cars, and policemen, which you must avoid, or damage to your car will cause it to fall apart.

Animation is surprisingly fast and smooth, so the game plays well, but the game screen itself is small and can make it difficult to see what's ahead.

Andrew Brown

ARCHIMEDES

DTP UPDATE

Two products that have been rumoured for many moons are now ready for release. *Tempest* from Clares and *Ovation* from BEEBUG are both DTPs, and neither has a dongle, which will be a relief to many.

By way of a context for these latest, there are still problems with the bolt-on protection system that Computer Concepts uses with *Impression*, but these are said to affect only a small minority of users.

Tempest looks the part, is written largely in ARM machine-code and is structured to take extensions with ease; version 2 is even now on the drawing board. What you get in version 1 is a fast DTP, about the size of *Impression*, which can do more than *Acorn DTP* and includes dynamic frames.

Dynamic frames give you the ability to set up a frame with border, background tint or whatever and repeat it automatically, from page to page, as text is flowed into a document. In other words, *Tempest* will create new pages with new frames until the source text is exhausted.

Another innovation is the ability to export text from a *Tempest* document. Once you've imported and formatted text from a source file, you will be able to ship it out again as text, possibly including embedded formatting commands, and use the text again in another document.

Ovation's main claim to fame was going to be its price. At £114 it will undercut *Impression* and *Acorn DTP* by a considerable margin.

However, *Tempest* comes in at an introductory price of £129, which is not much different, and seems to offer more. That's not to say you don't get a good package with *Ovation*. It's billed as offering a built-in spell checker, hyphenation, master pages, stylesheets, coloured text, frames and borders and a full range of clip-art.

It looks like being quite a battle of the DTPs, one of the Arc's main niche markets, before the end of the year. I hope to be reviewing both products in *Express* soon.

ESCAPE FROM EXERIA

A few weeks back I covered *CAST*, an accounting system for small traders by Vince Hudd.

Just to prove he can program things other than business software, Vince has now sent through what he believes to be the cheapest game yet available for the Archimedes. At £2.95 mail order, I should think he's safe on that aspect.

The game itself is in some ways similar to *PacMan*, with a small circular character propelled through a maze of dots. The ghosts are replaced by peculiar pawnbroker-like trios of balls, but are just as deadly to the touch (as ghosts, not pawnbrokers).

Where the game differs, is that sets of dots in different colours are the key to completion of each level. As you eat the last red dot, for instance, a series of red 'doors' dotted round the screen are removed, opening other areas for travel, but offering new options to the alien balls, too. As you wind you way into different areas of the screen, you need to predict how their patterns of movement will change as you open the next door.

The game is very addictive, and with 40 screens to master, it should keep you going for some while. Perhaps a touch repetitive, and with rather basic graphics, it is brightened up with some good digitised spot effects and it progresses well in difficulty from level to level.

There are still a few minor bugs in the collision detection, but provided these are ironed out, it really is one which should be added to every Arc owner's arsenal. Drop £2.95 to Soft Rock Software, 124 Marissal Road, Henbury, Bristol BS10 7NP.

Bertrum Carrot

GAME SHOW HOST

There's a new version of !65Host out. Acorn has released what it considers to be a 'substantial update' to the !65Host BBC emulator supplied with Arcs.

The new utility is faster and offers full BBC sound emulation, among other goodies. This should increase compatibility with BBC software, including games. You can get a copy from your nearest Acorn dealer, or through Acorn's on-line service, SID.

THE ATARI ABC

Now, there's a PC-AT compatible that not only solves problems like other AT compatibles, it also solves the one problem that its predecessors have created ... affordability.

Silica Systems are pleased to present the new Atari ABC. The ABC is a 286 AT compatible that runs at over 5 times the performance of the IBM XT. This is achieved by combining the power and speed of a 16-bit 286 processor, with Atari Corp's development experience and engineering capabilities, which use the very latest in design technology. However, the Atari ABC's are available at 'XT prices' and many XT owners will wonder why they paid more, but got less!

The ABC is a reliable, high performance computer, built to exceptionally rigorous standards. It is well designed, to a state of the art specification, maintaining maximum expansion capability for the future. This includes up to 4Mb of RAM and 3 AT expansion slots. Plus, unusually for a PC at this price, the ABC has the ability to install two or three extra drives, with the cabling already inside the CPU.

The ABC has a host of impressive features, all built-in as standard, encouraging simple installation and ease of use. In addition, the ABC's small footprint and quiet operating, mean that you will notice it less on your desk than other PC's. Except, of course, when you begin to take advantage of its AT power.

At its remarkably low price point, the ABC is ideally suited for home, office and educational use and will take full advantage of the vast range of PC compatible software. And, with 12 months FREE on-site maintenance (8 hour response), you can rest assured that your ABC will be fully supported.

The ABC is the latest addition to a comprehensive range of both 286 (8Mhz or 12Mhz) and 386 (16Mhz and 20Mhz) PC's, from the Business Systems Division of Atari Corp. Atari's PC range offers an unsurpassed combination of reliability, compatibility and expandability, with unique features like Atari's 44Mb removable hard disk on their PC4. Return the coupon NOW for further details of the complete range of PC products from Atari's Business Systems Division.

ABC TURBO
AVAILABLE: JUNE 90

To put the ABC even further ahead of the competition, we have introduced a special 'Turbo' version, which includes a super fast RLL hard disk controller to increase the data transfer rate from 150KBytes/s to 800KBytes/s, with a performance index of 4.801. Plus! to provide exceptional graphics with an outstanding colour resolution of up to 1024x768, we have included a Super VGA graphics adaptor and a 14" VGA colour monitor (which also supports 1024x768 resolution), all for an additional price of only £300. Check the ABC Turbo against the competition, at only £1299 (+VAT) with 30Mb hard disk, Super VGA colour graphics capabilities, plus 12 months on-site maintenance, it offers unbeatable value.

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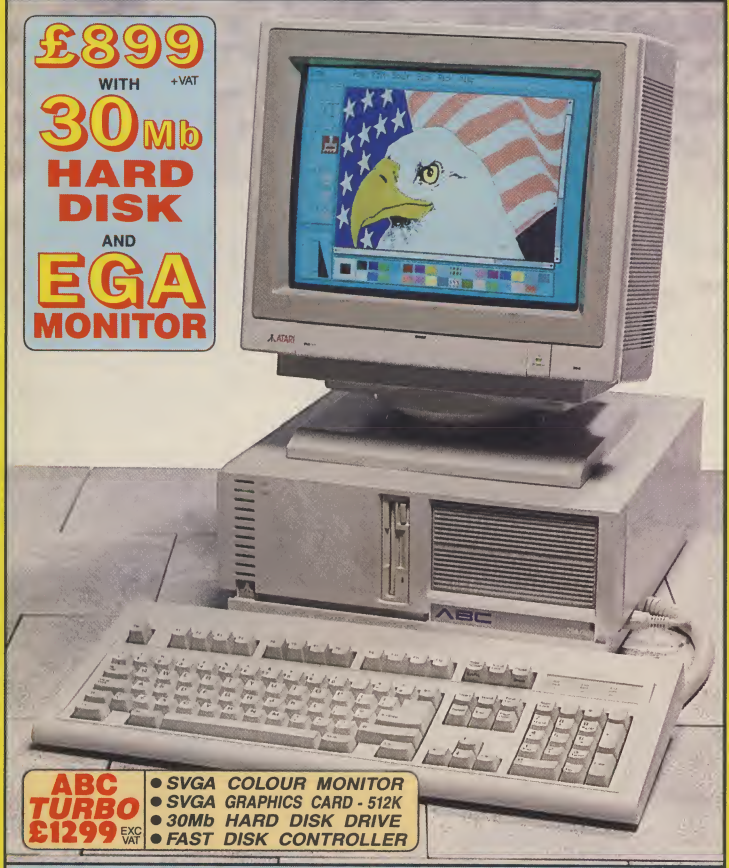

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Before you decide when to buy your new Atari ABC, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your ABC, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new ABC products? At Silica Systems, we ensure that you will have nothing to worry about. Silica Systems is a new division of Silica Shop, the UK's leading Atari specialists. This new division has been established to provide a service to the more serious home user, as well as to business and education purchasers. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now, for our latest Free literature and begin to experience the "Silica Systems Service".

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BRAIN POWER

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Forget squash or golf, the cosmopolitan pastime these days is a trip to the brain gym – and Express is giving you the chance to own your own...

The 1990s are set to be the clean decade, the caring, sharing decade, the undecadent decade. Instead of 'getting out of it man' we are all supposed to want to 'get into it... person!'. And you can't get much further in to anything than you can your own brain.

Transcendental meditation, prayer and repetitive activity have been with us for thousands of years now. Drugs were the 1960s route to gaining maximum insight but are far too tacky for the 1990s.

Sensory deprivation, which was fictionalised out of all reality by the film *Altered States*, was the late 1960s and 70s attempt at extracting the maximum power from the brain. The late 1980s saw the computer coming into play, and the theory of 'whole brain thought' began to gain some credence.

WHOLE FOOD

The current trend of 'brain gyms' is backed by this theory. As an idea it is simple enough even for old agers, as opposed to New Agers, to get to grips with; in a nutshell the quest is to get both cerebral hemispheres working in unison.

In normal circumstances, the left-hand side of the brain handles abstract activities such language cognition, speech recognition and perception. The right-hand side deals with the boring stuff such as being able to stand up, sit down and make the tea. Really abstract actions such as imagination and dream production are carried on, well, who knows where. The debate continues on that subject. One side of the debate holds that the two hemispheres don't argue over creativity, but work together to produce it.

Brain gymnastics attempts to bridge the gaps between right and left by use of computer machinery. At first capsules were constructed into which the aspiring brain gymnast would go. Lights, sound, action! Coloured, strobing lights and monotonous sounds which were said to mimic the frequencies of brain waves, produced every second throughout life, were then projected at the gymnast. By attempting to synchronise or mildly deviate from the brain wave patterns, anything from beatific relaxation to thought stimulation was said to be produced.

Capsules are a tad too clumsy for the modern world so now brain gyms, and even rogue individualists, can make use of mobile units such as the Brain Machine from Cerebral Dynamics or the MC² Dream Machine from Tensor Marketing.

INNER SELF

So now, instead of finding your true self shacked-up with a guru in Katmandu or in a converted church in Amsterdam, you head off to the squeaky clean brain gym. The only one of these we've been able to track down so far has been in Camden Town, London and is called the London Neuro Centre (071-284 4769). Aside from this, of course, you can lay hands on your own cerebral weight-training equipment. ■

WAVING NOT DROWNING

So far four brain wave frequencies have been tracked down and measured: Alpha (8-12Hz), produced during periods of relaxation; Beta (13Hz), produced while active; Delta (1-3Hz), produced in deep sleep and Theta (4-7Hz), produced when one is feeling creative.

WIN your own brain machine

Just the Word

£598 worth of prizes will go to two perceptive readers this week. You've read about the theory (above), now you can put Whole Brain Thinking and legal mind expansion into practice without forking out for a trip to Thailand.

J & M International (UK) Ltd of Gateshead has kindly donated two brain boosting MC² machines, valued at £299 each. *Express*, in a fit of New Age philanthropy, will pass these thought energising pieces of hardware on to two lucky readers.

The MC² consists of a Walkman-sized unit, earphones and a pair of pretty neat glasses. The unit provides the sound and light impulses which mesh with your brain waves. They are transmitted in colour and throbbing sound via the goggles and 'phones. All you have to do is sit back, close your eyes and be relaxed, enlivened or just plain amazed.

Not only are we offering two free MC²s, but for the next month Tensor Marketing of Darlington has agreed to provide a £100 discount for *Express* readers who wish to purchase MC²s.

If you would like to take up the *Express* and Tensor Marketing £100-off deal you should call Tensor on 0325 469181.

All you need do to win yourself an MC² is to take a good hard look at every word printed in this week's *Express*. Somewhere in this issue – either in the editorial or in an advertisement – is the word ENERGUMENICAL. Find the word, then fill in the number of the page it appears on in the space provided on the answer form.

Fill in you name and address and send you entry to Tensor Competition, *New Computer Express*, 30 Monmouth Street, Bath BA1 2AP, to arrive not later than Monday July 23.

The first two correct entries out of the hat will each win an MC² and be set up for years of power thinking. The editor's decision is final.

WINNERS!

Copies of *NewWord II* and *Cracker II* for the PCW go to the following lucky winners:

Graham Reedier, Hull, Humberside; S V Williams-Condor, Manchester; Stanley Whibberley, Biscovey Par, Cornwall; Clive Richards, Pembroke, S Wales; James Taylor, Sutton Coldfield, West Midlands.

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THE SHOPPING EXPRESS BUYER'S GUIDE TO DTP, GRAPHICS AND DIGITISERS

The computer has revolutionised the publishing industry. With some software and a few hardware add-ons it's now possible to create entire documents on screen, complete with photographs and illustrations. To find out what's available, read on...

From paste-up to PostScript, the world of desktop publishing has arrived on your micro. So whether its a club newssheet or a magazine like *Express*, there's a variety of packages to suit your needs.

Desktop publishing sells computers. Its massive growth in recent years on the Apple Macintosh and PCs has spawned a wide range of products for other micros. But you could easily spend £10,000 on a system so what should you look for if you've only a few hundred at your disposal? *Express* looks at the DTP packages that will allow you to input, import and edit text and graphics in a friendly environment. Last week we looked at scanners, so for good measure we also include a round-up of another means of importing pictorial material into your publishing efforts – digitisers.

PC DTP GUIDE

It's best to go for GEM-based DTP packages as they all offer output to dot-matrix and laser printers – and the device-independent, page description language PostScript used by professional printing companies.

● VENTURA PUBLISHER V2

Rank Xerox • 0895 51133
£914

A GEM-based heavyweight supporting documents up to 999 pages, and offering master templates, style sheets and text import. A comprehensive range of features with precise control over layout and typography ideally suited for technical applications.

▲ Complete PC DTP for business and technical documents
▲ Fully automated text entry and layout

▼ Can't flow text around graphics
▼ Expensive

Value for money ★★★★

● PAGEMAKER 3

Aldus Europe • 031-336 1727
£800

Running under Microsoft Windows and geared towards the pro-graphics designer, needs a 286 or 386 for effective use. Documents can be up to 128 pages, text can be flowed around graphics very easily and the package includes colour support. Perhaps most useful, parts of pages can be worked on separately and then combined when completed.

▲ Allows simultaneous control of different page components
▲ Easy to use with its pop-up menus

▼ A little slow even on fast PCs
▼ Price

Value for money ★★★

● FINESSE 2

Logi UK • 0925 413501
£171

Once known as *AMS*, this GEM-based package works with frames, but treats input or imported text and graphics separately and colour codes them. Documents may be up to 16 pages, and masters and paragraph styles can be pre-recorded for fast layout.

▲ Flexible with many useful features
▲ Good manual with excellent tips on design

▼ Limited typefaces

Value for money ★★★★

● JETSETTER 4

Garbo Systems • 0736 67166
£399

A wide variety of fonts and text sizes up to 750 point make *Jetsetter* unique. Separate menu driven screens for graphics and text allow good control of graphics but limited text editing functions. However graphics are bitmapped and can't be resized larger than the original

▲ Excellent with a laser printer
▲ Versatile graphics handling

▼ Difficult text editing

Value for money ★★★

● TIMEWORKS DTP

GST/Timeworks • 0954 81991
£129
ALSO AVAILABLE FOR ATARI ST

One of the first medium priced DTP packages, GEM based and compatible with the wide range of Bitstream Fontware. A frame based system incorporating master templates, paragraph styles, page guides and automatic text wrap-around graphics. *Timeworks* also includes a a good range of drawing facilities and is able to handle documents up to 999 pages.

▲ Excellent DTP at budget price
▲ Imports wide range of text and pictures

Value for money ★★★★★

● FLEET STREET EDITOR

Mirrorsoft • 071-928 1454
£184
ALSO AVAILABLE FOR ATARI ST,AMSTRAD PCW, AMSTRAD CPC, BBC

A GEM style package, Bitstream font compatible, but generally slower to use than real GEM DTPs. Both text and Graphics can be manipulated on the same screen and overlap each other. A wide selection of clip art is supplied but the working document has to be reloaded before insertion.

▲ Good clip art selection
▲ Wide file format supported

▼ No automatic reflowing of text
▼ Relatively slow and unfriendly

Value for money ★★

● GEM DESKTOP PUBLISHER 2

Digital Research • 0635 35304
£397

You might expect something special from GEM's authors but what you get is a package which is very memory intensive although offering the usual page layout, paragraph tags and frame-based text formatting. On the plus side, it does include good text and graphics import and the rare ability on PCs to alter spacing between words.

▲ Inexpensive frame formatting
▲ Flexible text handling

▼ Slow

Value for money ★★

AMIGA DTP

● PUBLISHER'S CHOICE

HB Marketing • 0895 444433
£99.95

Coming complete with the *Kindwords* word processor, the *PageSetter* text and graphics editor, a disk of headline fonts and the *LaserScript* utility that configures your documents as PostScript compatible, this really is a choice product. Working on the frame and grid principle, *PC* provides separate text, graphics and layout screens with the useful addition of full feature pasting facility.

▲ An comprehensive package
▲ Includes spell checker and thesaurus

▼ Slight lack of integration between component parts

Value for money ★★★★★

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Amiga 500 + Batman Pack & 5 games, joystick £345.00
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AMIGA BATMAN PACK £317

New from Amiga
Includes: TV modulator, 3.5" Disk Drive with Amiga DOS Kickstart, Workbench and Batman The Movie game, F18 Inceptor, Paint 2, New Zealand Story.

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Amiga To Philips cable.....£8

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Amiga Scanner.....£169

MOUSE

Naksha mouse.....£29

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Star LC10 mono.....£135
Star LC10 II mono.....£159
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Mannesman MT 81 Dot Matrix.....£115
Mannesman Sheetfeeder.....£62
Mannesman Serial Interface.....£49

REPAIRS FOR AMIGA AND ATARI

● PROFESSIONAL PAGE

HB Marketing • 0895 444433
£249.50

Based on the industry standard, *Pagemaker*, frame-based documents can be picked up moved off page and re-pasted at will and at ease. Supporting text flow, zooms, handy drawing utilities and high-resolution bitmapped graphics, *PP* also offers colour separation control – all at an amazingly low price. There's a page review mode and PostScript printing is also catered for.

▲ Excellent value for money
▲ Perfect for high-resolution pages and colour separation

▼ Needs two drives or a hard disk

Value for money ★★★★★

● PAGESTREAM

Silica Systems • 081-309 1111
£171.35

A frame based package, which also uniquely allows you to rotate text and graphics material in three dimensions. Aside from the usual DTP features, page view, variable zooms, automatic text wraps, and a range of text styles make the product very comprehensive.

▲ A wide range of flexible control
▲ Unique 3D text and graphics handling

▼ Limited colour separation

Value for money ★★★★★

● CITY DESK

Precision Software • 081-330 7166
£157

A different approach offers the user a column-based formatting package in which imported text can be shunted around the page as if it were a graphic object but font, sizing and style attributes are messy. A rather simplistic graphic editor does it business adequately enough but despite some power, CD suffers from the lack of a GEM-type interface.

▲ A powerful low-cost package
▲ PostScript supported

▼ Formatting commands entered as code
▼ Terrible manual complements a difficult interface

Value for money ★★★

● SHAKESPEARE

Cloudhall • 0604 231 2111
£99

The only budget DTP package that allows colour on the page to be carried through to hard copy also supports mono PostScript output and is frame-based. However there's no zoom facility and font,style and size attributes are lost when text is reflowed. IFF colour graphics can be imported but not HAM, however 32 colours can be displayed on screen and palettes changed accordingly.

▲ Ideal for colour printer owners
▲ Accurate text positioning

▼ No format data can be imported with text
▼ No drawing tools included

Value for money ★★★

ST DTP

● PUBLISHING PARTNER

Clik ST • 0753 682 988
£159.99

Excellent GEM-based pagemaker system, with multiple-on screen pages, impressive range of fonts and text sizes and facility to import different ST graphics formats. Also includes a range of drawing tools and variable magnification. Fast screen updates and high quality printer output

▲ Comprehensive and fast
▲ Excellent value

Value for money ★★★★★

● SIGNUM 2

Signa • 0252 31600
£184

Billed as a document processor, Signum allows text to be placed and adjusted to accuracies of up to 1/90th of an inch as well as imported graphics and technical fonts and symbols. Dot-matrix and laser printers are supported.

▲ Fast screen updates and response
▲ Compatible with Signa's scanners, digtisers and Mac emulators

▼ Price

Value for money ★★★

Also available:

● FLEET ST

£115

● TIMEWORKS

£99.95
see PC guide above for comments

ARCHIMEDES

● IMPRESSION

Computer Concepts • 0442 63933
£171

Designed specifically for RISCOS, *Impression* multi-tasks with other applications and supports data transfer between them. Capable of handling complex magazine layouts it comes with an outline font manager and typesetting quality printouts.

▲ Ease of import and editing
▲ Super-fast screen handling

Value for money ★★★★

● ACORN DTP

Acorn • 0223 245200
£149

Similar to the original *PageMaker* for the BBC B, Acorn's own package is based around frames into which a wide range of text styles, sizes and fonts can be combined with a range of imported graphics to produce high-quality printed output

▲ Demands a knowledge of DTP
▲ Fast screen handling

Value for money ★★★

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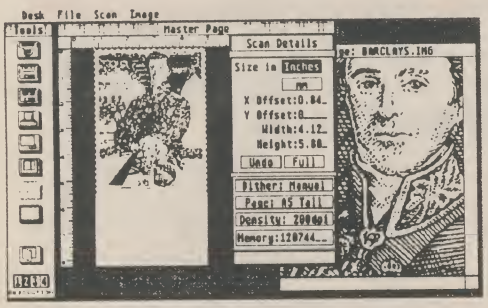

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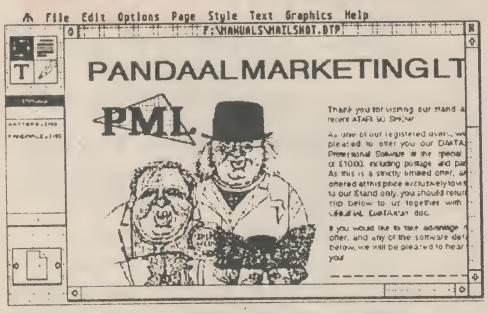

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● STOP PRESS
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A well-designed desktop publisher which doubles up as a graphics package. Besides being able to display data as graphs, pie charts etc, and manipulate draw objects, there's also a zoom feature, image superimposition and a clip art library. You can print up to 108 pages in one go, choose from 14 different fonts and use up to 96 point type size.

▲ Great graphics handling
▲ Accurate positioning and layout

▼ Poor facility to undo mistakes.

Value for money ★★★★★

AMSTRAD CPC

● STOP PRESS
Database • 051-357 2961
£49.99

The DTP package for the CPC, *Stop Press* allows you to produce text of any size with a wide range of fonts and run it around illustrations you've drawn and edited. You can make fine adjustments, add patterned borders, create boxes, add shaded backgrounds and even fill circles with text.

▲ An impressive and comprehensive all-rounder
▲ Fantastic text and graphics handling

▼ You need a mouse

Value for money ★★★★★

COMMODORE 64

● STOP PRESS
£39.99
See notes above

BBC

● WAPPING EDITOR
Watford Electronics • 0923 37774
£69

Coming on a 64K ROM, this package has a sophisticated graphics module, prototypesetting software, a word processor, font editor and a variety of printer dumps. It's mouse control allows you to create pages from A6 to A3, and print up to 150 characters across a A4 page. Multiple columns and pages are also supported.

▲ Very user friendly
▲ Extremely comprehensive range of features

Value for money ★★★★★

PC GRAPHICS

● PC PAINTBRUSH
Microsoft • 0734 500741
£145

Bitmapped painting package which offers a reasonable range of tools and functions to build impressive graphical displays. This program allows you to perform everything from simple sketches to complex and colourful designs.

▲ Microsoft is synonymous with quality
▲ Moderately easy to use

▼ Not cheap

Value for money ★★★

● DELUXE PAINT II
Electronic Arts • 0753 46465
£99.95

Comprehensive painting program also available for other machines which features functions such as dithering, lots of fills, stencils, in fact everything necessary for the budding silicon artist.

▲ Comprehensive and fully featured
▲ Gets the most from the limited PC display

Value for money ★★★★

● CORELDRAW!
CTRL ALT DELI • 0908 662759
£460

Advanced paint program with many functions including full traced bit-mapped graphics, lots of colours and fills and an easy to learn user interface. If you have a yen to tinker with paint and design but don't want to learn complex command sequences this is for you.

▲ Easy to learn and use
▲ Bit mapped graphics

Value for money ★

● VP GRAPHICS PLUS
Paperback Software • 0245 265017
£114.95

Not a paint package as such but rather a program which allows you the user to produce graphs and charts depicting a variety of information. You can draw histograms, pie charts, line graphs in fact everything necessary for business graphics display.

▲ Full range of charts available
▲ Easy to use

▼ Not for artists

Value for money ★★★

AMIGA GRAPHICS

● DELUXE PAINT III
Electronic Arts • 0753 46465
£79.95

The painting package for the Commodore Amiga. All possible functions including dithering, patterned fills, stencils, use of perspective, rotate and scaling effects as well as wrap fills, shadow painting using EHB and last but not least incredible animation making full use of all available tools.

▲ All possible painting functions
▲ Powerful animation

▼ A little daunting

Value for money ★★★★

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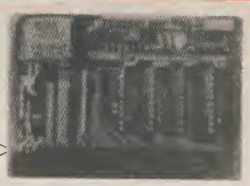

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● PHOTON PAINT 2

Microillusions • 0480 49497
£79.95

This is the package for the novice. A very easy to use painting program that is both powerful yet simple to learn and exploit. There's full use of HAM modes, airbrush, texture mapping, variable blend control and animation. Recommended.

▲ Easy to use
▲ Many functions including animation

Value for money ★★★★

● PROFESSIONAL DRAW

HB Marketing • 0895 444433
£155

For those who want to create professional designs this is the package. Professional Draw has an easy to understand user interface featuring many icons which relate well to their respective operations making it easy to get the most from the program.

▲ Structured approach simplifies operations
▲ Reasonably priced for professional quality CAD

▼ Requires a little draughting knowledge to get the most from the program

Value for money ★★★

● DIGIPAINT V3.00

HB Marketing • 0895 444433
£60

The original and still one of the best. Fully-featured HAM painting package with sexy functions such as 4,096 colours on-screen and lots of special effects including shading, blending and tinting. What's more this latest version also features text, overscan and texture mapping and is £20 cheaper than earlier versions.

▲ Plenty of features for the money
▲ Special effects tools

▼ Not the most comprehensive paint package

Value for money ★★★★

ATARI ST GRAPHICS

● CYBER PAINT

Electric Distribution • 0480 496666
£69.95

Breath-taking bitmapped animation and graphics package from American magazine/software publisher Antic. This program features some incredible effects including tweening (changing one object to another a line at a time) and very powerful animation functions. Rivals the Amiga and is highly recommended.

▲ Very powerful animation
▲ Stunning effects
▲ Cheap

Value for money ★★★★★

● DEGAS ELITE

Electronic Arts • 0753 46546
£24.95

Like *Digipaint* for the Amiga, Degas *Elite* was one of the very first painting programs available for the Atari and it's still one of the best. You can have up to eight word screens at once cut and paste between any of them and there are plenty of useful and powerful functions such as zoom, block handling etc.

▲ 8 screens available
▲ Powerful block handling

▼ Lacking in features when compared to latest offerings

Value for money ★★★

● SPECTRUM 512

Electric Distribution • 0480 496666
£59.95

Painting package featuring (as its name suggests) 512 colours. The program is simple to use and effective. There's some very powerful functions too in the form of anti aliasing and gradient fill.

▲ Lots of colours
▲ Easy to use

▼ A little expensive

Value for money ★★

● ADVANCED ART STUDIO

Rainbird • 071-240 8838
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Aimed at those with a serious interest in producing quality art/graphics displays. The Advanced Art Studio has an enormous range of fills as well as comprehensive zoom and text handling complete this package.

▲ Lots of fills
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The Acorn Archimedes with its immense computing power is the ideal machine for complex graphics manipulation and *Atelier* from Minerva Software exploits that power to the full. All tools and functions necessary for complex design and drawing.

▲ Powerful and comprehensive
▲ Easy to use

▼ A little expensive

Value for money ★★★

● PRO ARTISAN

Clares Micro Supplies • 0606 48511
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Professional release of the evergreen *Artisan* paint program. This package features 256 colours and 15 modes of operation.

▲ Lots of help screens

▼ Requires at least 1Mb of memory

Value for money ★★★★

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● MASTERPAINT/ MASTERSCAN

Database Software • 051-357 2961
£79.95

PCW and painting programs? Now it is a possibility with *MasterPaint* from Database Software. You can draw circles, ellipses, boxes, use fills cut and paste etc. There's comprehensive text manipulation and a variety of fonts. Only available with the Masterscan scanner

▲ Fully featured
▲ Exploits the power of your PCW

Value for money ★★★★

CPC GRAPHICS

● ADVANCED ART STUDIO

Rainbird • 071-240 8838
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Very similar to the Spectrum and Commodore 64 versions this popular painting package produces pixel appointed perfection and performs well!

▲ All the features necessary for pretty pictures
▲ Reasonably priced

Value for money ★★★★

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● ADVANCED ART STUDIO

Rainbird • 071-240 8838
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Superior painting program for Spectrums equipped with 128K or above. Plenty of fills, colours and features such as zooming, windows and text handling. Reasonably priced and featured.

▲ Plenty of tools, colours and fills
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Value for money ★★★★

COMMODORE 64 GRAPHICS

● ADVANCED ART STUDIO

Rainbird • 071-240 8838
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Very similar to the Spectrum version but works with the basic Commodore 64 as well as the larger RAM memory machines. Fine range of features for a reasonable price.

▲ Full featured
▲ Plenty of colours
▲ Works with the 64K machines

Value for money ★★★★

DIGITISERS

● VIDI

ROMBO PRODUCTIONS • 0506 414631
(free demo disc available)
FOR PC £115
FOR AMIGA £99.95, £119.95 (colour version)
FOR ST £99.95
FOR PCW £99.95
FOR CPC £99.95

Grabs 16 shades of grey from videotape recorder or camera with software. the plug in card feature as a phono socket for the video signal input and controls for brightness and contrast. depending on the machine,the software allows real-time capture and display – on the Amiga it's four frames a second. If you have extra memory you can store images in RAM and play back animated sequences.

▲ Good low-cost performance
▲ Can control hardware from your own programs

▼ Performance dependent on host machine

Value for money ★★★★★

● THE DIGITISER

DATEL • 0782 744707
FOR AMIGA £89.99
FOR ST £79.99 (works in mono and colour)
FOR COMMODORE 64 £79.99

Plugging into a parallel port, the hardware frame grabs at 1/50th second and screen updates at one frame per second allowing the software to edit,cut and paste portions of the 16 grey scale picture along with special effects such as reversals and mirroring.

▲ Impressive features at the price
▲ Single, continuous or buffered display

Value for money ★★★★★

AMIGA

● DIGI VIEW GOLD

HB MARKETING • 0895 444433
£130

This minute digitiser plugs into the parallel port and comes with an accompanying colour wheel which attaches to a video camera for colour grabbing individual RGB signals. Grey scale digitising is also supported and both results are extremely impressive. Saturation, brightness and sharpness can all be controlled.

▲ Very impressive in HAM mode
▲ Features overscan, extra half-brite and line art support

▼ Needs 1Mb
▼ Lengthy scan times

Value for money ★★★★

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▲ Good quality digitisation
▲ Can digitise 4096 colours

▼ Slow scan rate
▼ No frame buffer

Value for money ★★★★

● DIGI-PIC
PRECISION SOFTWARE • 081-330 7166
£299

Up to 16 grey scale levels are supported with this impressive hardware which also includes a colour wheel for RGB scanning. Intuition pull-down menus afford easy operation and access to all functions leaving the main screen uncluttered. Software controls include quantisation,contrast, and edge

▲ Fast operation
▲ Supports up to 32 colours

▼ Low-res only

Value for money ★★★

ST

● TURBO-DIZER
SOFTWARE EXPRESS • 021-328 3585
£149

Camera, video recorder or TV pictures can be digitised via the plug-card as colour or grey scale images which can be treated for brightness and contrast. Images can be saved to disc as *Neochrome, Degas* or *Art Director* format files for subsequent manipulation. Only high- res pictures can be saved for DTP use.

▲ Good range of control for the price
▲ Excellent results in hi-res mode

▼ Slow scan time
▼ Animation only possible in lo-res

Value for money ★★★★

● SAM DIGITISER
START SYSTEMS • 0304 369364
£249.95

An excellent real-time frame grabber for capturing images in 16 colour lo-res format. Entire sequences can be saved – 10 on a 520, 24 on a1040, 52 on a Mega ST2 – and animations run at variable speed in forward or reverse.

▲ Blur-free, sharp frame capture ability
▲ Good animation and control

▼ Only operates in lo-res mode

Value for money ★★★

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● REAL-TIME DIGITISER
WATFORD ELECTRONICS • 0923 37774
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Billed as the best digitiser for any micro, it provides a fast and flexible means of digitising. video camera, recorder and off-air pictures can not only be captured but treated and manipulated in real-time to a range of effects.

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Value for money ★★★★★

● I/O PODULE
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▲ Good level of sampling
▲ Part of a excellent suite

Value for money ★★★★★

PCW

● VIDEO DIGITISER
ELECTRIC STUDIO • 0462 675666
£99.95

Plugging into the expansion port and accepting either camera or recorder input. The resultant image can be used in any DTP package

▲ Auto contrast control

▼ Quality not as good as scan

Value for money ★★★

BBC

● BEEB VIDEO DIGITISER
WATFORD • 0923 37774
£114

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▲ Unit can be driven from BASIC

Value for money ★★★★

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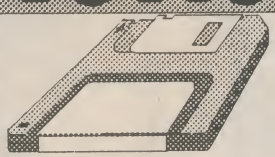

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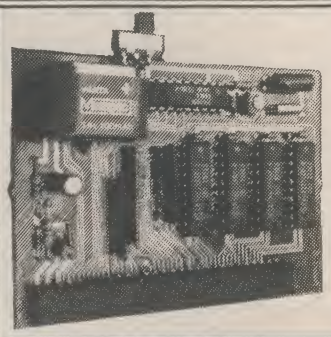

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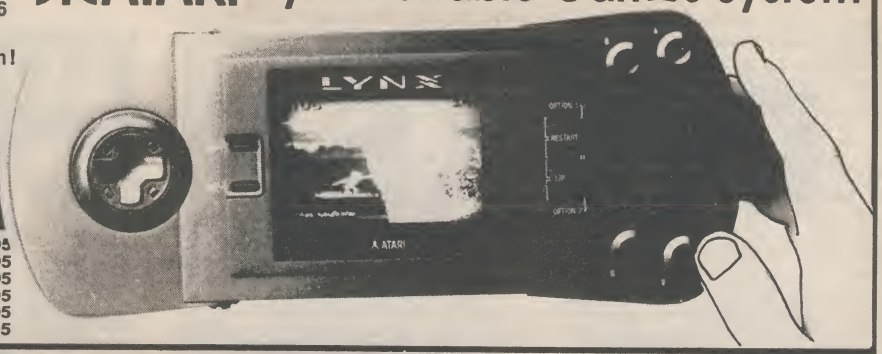

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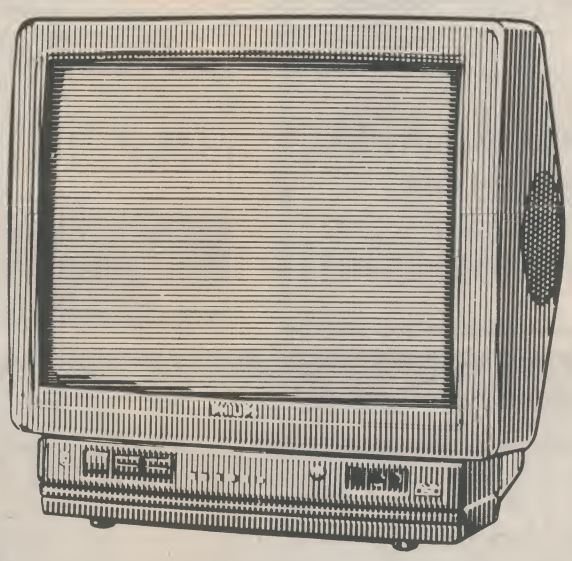

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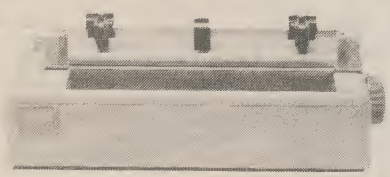

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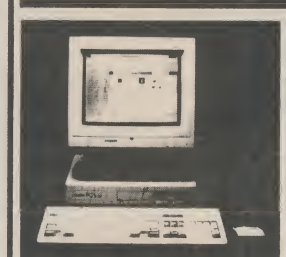

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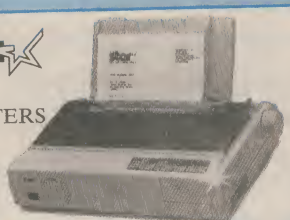

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DOES anyone know of an ST user group in the Reading / Wokingham area? If so please phone: Matthew by Tel: 0734 788085.

GWYNEDD, N. WALES. ST User Group. I want to get in touch with all local ST Users to form a new group. Contact S. Rammerling, Clogwyn Plas Gwyn, Pwllheli, Gwynedd, N. Wales, LLS 36UA.

HYPERPAD – interested in forming a user group? SAE to Dave Langstaff, 78 Harrison Road, Swaythling, Southampton, SD2 37J.

IF You want to spread your groups in Asia. Send your latest + your demos to: Tariq, P.O. Box 3581 Safat, 13036, Kuwait. 100% reply, Amiga Only. Also will swap spot.

IS there a Clipper/DBase 3+ User Group in London? I will be grateful for any details. Guy Ellis, 23 Sussex St., Pimlico, London, SW1V 4RR.

ISLE OF WIGHT PC User Group. Anybody wishing to join should contact I.O.W. 0983 614277/614649 and ask for Sean.

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LAMER? Want to swap software, tips, demos and form a Lamers against Lamers Society? Then contact, Faisal Patel, 73 Track Road, Batley, W. Yorks, WF17 7AB.

LIST the low income ST User Group for students and the unemployed send two blank disks to Marcus, 9 Days Green, Chapel Street Mary, Ipswich, Suffolk IP9 2HZ for details.

NINTENDO contacts wanted for swaps and setting up of User Group! Write to: Ashley Middleton, Amberley, Park Drive, Little Aston Park, Sutton Coldfield, B74 27A, 100% reply.

PC200 user I think it's OK! Did you buy the other one? What do you think of it? Give me a ring 0432 266451 Neil.

PCW Users Interested in P.D. send S.A.E. to: PCW-File, 18 Sunbrow,Haslemere, Surrey GU27 2QP. The PCW-File is on Boog BBS 0252 626233, 24hrs, V21/V23. No Fees.

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ST user: Help!, I'm Australian and have just bought an ST (used to own a C64 in Oz) Anyway, I am looking for good contacts and also anyone in Bradford interested in starting a users group. Contact David Marshall, 5 Highfield Road, Five Lane Ends, Bradford, W.Yorks.

ST users in Bradford, I'm starting a users group, just contact Dave on: 614945 and get the most out of your ST. NO FEES!!

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THE PD COLUMN

Adam Waring's latest offering leads the reader into new arenas for the ST and Spectrum computers. Sit back, sit tight and let him be your sherpa as you climb that mountain known as Budget Computing...

There's plenty out there for the ST user, but how do you know exactly what to get? I mean, there's so much stuff it's easy to get lost in the vast sea of PD software. Well, these pages should hopefully be something of a guide to what's available, but there's nothing like seeing it in the first person.

Buzzbox is a disk-based magazine totally devoted to PD on the ST. It comes out on the first of every month, and it aims to tell you about the very best PD around.

There's plenty to read, including editorial, reviews, and letters as well as a jokey humorous section. The text tends to be a bit on the short side, but the disk is really meant to be read by the computer, not you.

A PD magazine just wouldn't be complete without a little PD. And there's plenty on offer here, from all the best libraries in town.

All the PD proggies are archived, the result being a jam-packed disk. On the minus side, it means you can't run the programs directly.

You need to copy the programs onto a blank disk, and put them through the de-archiver program first. Luckily it's easy enough to use.

Copy both the de-archiver and the program you want to use onto the disk. Boot up the de-archiver and type in the file name. The program – in some cases several programs – are extracted and after a couple of minutes are sitting on your disk, ready for use.

The software on offer includes demos, utilities and games. It's a varied selection, and should have something for everyone. The Buzzbox disk is formatted to double-sided capacity.

This latter detail is good news for the majority of ST owners, as it allows there to be so much crammed on the disk. However, those of you with the earlier single-sided 520s, will have to go without, I'm afraid.

CORE WARS

Imagine the scenario. Your enemy's out there somewhere, hiding. You don't know where, but then again, they don't know where you are either. It's a battle of wits, you've got to get them, before they get you.

So what's this? The latest PD game? Not quite. It is a game of sorts, but you don't play. The contestants are computer programs.

It goes something like this. Two programs sit in memory. The computer processes one instruction from each program in turn.

The programs are designed to search out and destroy each other, while keeping themselves intact. The winner is declared when the other program is inoperative. There you have it: *Core Wars.*

In the bad old days of mainframes, programmers got bored of playing mindless text-based games all day. So they designed a game that tested their skills to the limit.

A simple programming language is used. It's rather like machine code, but has only 10 instructions. A central program is the referee.

It places the programs at a random point in the memory where the battle is to take place. Then it runs the battle and decides when the loser has been destroyed.

Despite the simplicity of the language, the programs are constructed to be very devious indeed. A simple one may just sit tight at the place it was put and blat out areas of memory randomly

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in the hopes of scoring a direct hit.

Others may replicate themselves, building up copies and then transferring control to one of their clones.

The ST implementation was written by Steven Tavener in STOS BASIC. It allows you to run up to five programs concurrently. Control is via the mouse and pointer, and after a quick scan through the documentation file, you should be ready to start.

Understandably perhaps, you may not want to jump straight into designing your own automated assasin. A large selection of pre-defined fighters are included on the disk, and you can load those in for the initial silicon skirmishes.

I decided to recreate the battle of five armies, choosing Jujitsu, Cancer, Dwarf, Mice and Worm as combatants. It was a close thing, but Mice and Cancer cleanly saw off the opposition. It ended up as a draw between those two.

The program is well designed. It is easy to get around in, and the nice front-end makes it particularly user friendly. You can mess around with the programs parameters, and add your own variants to play.

In the battle mode, you can either select as straight battle between all contestants, or opt for a tournament.

The tournament is the fairest way to decide which program is better. Whereas in the straight battle, a poorly designed program can get lucky and wipe out even the mightiest opponent. The tournament plays two of the psychopathic programs in a head-to-head for the best out of three.

Then another two play, and so on until all have played each other three times. The program with the most victories is then declared the winner.

Core Wars is a worthwhile addition to any ST owners collection. It's available on your ST courtesy of The South West Software Library. The good people there know it simply as disk 977, and they will be glad to send you a copy for the sum of £3.

SPECTRUM

8-Bit Back-up is a team of writers who produce the *Re-Run* fanzine. This group has just started to offer a public domain service to its readers. It's not grown to epic proportions yet, but hopes are very high indeed.

8-Bit Back-up covers all machines with bits that total eight, and I have just received a couple of programs form the group for that most popular machine, the Spectrum.

General Knowledge Quiz is, erm, a general knowledge quiz. Up to eight players can participate in the action, but they'll have to be prepared to test their little grey cells to the limit.

The players take it in turns to answer questions. They have to be pretty good at spelling too, as the computer expects you to type the answers in exactly right.

It's fairly basic stuff, but it's hoped that the library will grow in quality as well as size.

Readers of the fanzine are invited to send in their own programs. Prices – which include a tape, P&P, and a copying charge – are usually around a single pound.

You can obtain more details by the sending of 25p plus a large stamped addressed envelope. Mark the letter *ReRun*, issue 2 as that's the copy with the PD list in.

SEND IT IN!

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Our address, as if you didn't know already, is The PD Column, *New Computer Express*, Beauford Court, 30 Monmouth Street, Bath BA1 2AP.

WHERE TO GO

• *Buzzbox* Computing, 5 Balmoral Road, Moorlands, Lancaster, Lancs. LA1 3BT.

Publisher of *Buzzbox*, a disk-based PD magazine. Each issue includes a selection of PD from various PD libraries. The price is £2 an issue, including postage.

• 8-Bit Backup, 1 Northlome Close, Grays, Essex. RM16 2NX.

Send the paltry sum of 25p and a large SAE to this address, and you'll receive the *Re-Run* fanzine.

Inside this fabulous fanzine, as well as all that's good on eight bit, is the group's PD list. Remember to mark your envelope *Re-Run* ISSUE 2, or they won't know what to send you.

• The South West Software Library, PO Box 562, Wimborne, Dorset BH21 2YD.

Software and shareware for the ST, including the rather super *Core Wars* program. Each disk you order will cost you £3. Order four or more and the price drops to £2.50. ■

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TEXT PROCESSOR

The Portfolio's built-in text processor program includes word wrap, line and column count, string search, in fact most of the functions you would find in a word processor. It handles printer and word processor control codes and allows easy transfer of files between Portfolio and your desktop PC.

SPREADSHEET

For real calculating power, Portfolio has a Lotus 1-2-3 compatible spreadsheet built-in. It has 127 columns x 225 rows and reads/writes Lotus V1.0 and V2.01 files, so you can transfer data to and from Lotus 1-2-3 on your desktop PC. The Portfolio's 256K ROM includes MS-DOS and PC BIOS compatible systems software.

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Portfolio can store and retrieve data and programs from its own RAM, or from small credit card size memory cards, that slot into its built-in card drive. The cards are available in three sizes, 32K, 64K and 128K, so you can carry a library of data in your pocket. The card drive also accepts ROM cards, which can contain commercial or custom software.

POWER SUPPLY

Portfolio is powered by three AA batteries which will run for up to six weeks with normal use, or from the mains using an adaptor. All the peripherals take their power from the Portfolio, so no extra batteries or adaptors are required. A 'battery-low' warning and memory back-up ensure that information is not lost when the batteries are changed.

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Portfolio can communicate with other computers and supports a growing range of peripherals via a built-in 60 pin bus connector. Peripherals available include serial and parallel interfaces and memory expanders (to 640K). You can also add a card drive to your desktop PC, to enable it to read/write to Portfolio's cards.

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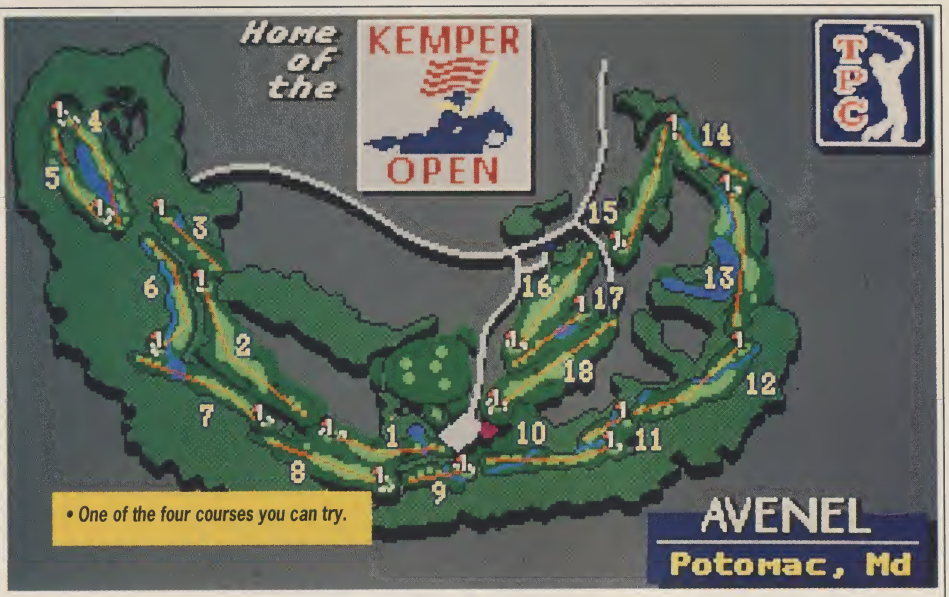

• One of the four courses you can try.

Golf on a computer, what's the point? That's what Tim Smith thought until he got to grips with PGA Tour Golf...

Having hated golf and all things golfesque since early childhood, the idea of reviewing a garish trouser and obscene jumper simulation held as much appeal as listening to Tarby and Brucey bantering about Sevvie Bally during a pro-ammy charity bash. Not only that but there was a *Kick Off 2* tournament going on around the corner – real sport, or so I thought.

Sitting in front of the PC with mouse to hand, *PGA Tour Golf* was booted up with an opening screen followed by the credits, then on to the copy protection. This was a good sign to begin with - there was none of that 'Go to page 23, paragraph 12, word 3, avoiding capitals and commas, but including question marks', it was simply a case of consulting the manual for the yardage on a particular hole. Once that's been negotiated you are taken into a pleasant graphic of The Pro Shop. So far, so OK.

ANY OLD IRONS

The shop is in fact a front operation for a number of choices. As with everything else in *PGA Tour* you can use the mouse or keyboard, and pull down menus from a bar at the top of the screen. There is a wide range of choices open to you – driving range, putting, practice rounds, tournament play – but unfortunately attire isn't one them. Up to four can play, either human or computer players. The humans can be saved to disk and this is where the going gets extremely good.

Once you have logged yourself in, you begin to build up statistics for every tournament played. These stats become very precious after a while, and you find yourself deliberating over every drive, pacing every putt and howling at every hook, because one bad hole might affect the excellent ratings you've built up.

Even non-golfers will be aware that you can't hope to hole a ball without clubs, so the next choice is which set to take. A new screen appears with a healthy choice of irons, woods and wedges. As this is pro golf your 'caddy' has already made a selection for you, however, you can change this by swapping what you have for what you want, say a 4 wood for a 1 iron. Believe me, each of the four available courses requires a different choice. And now to play.

THE WOODS FOR THE TEES

Forget the driving range and the putting practice, both of which are sweetly rendered, say pah! to the practice rounds and head straight for a tournament.

After playing an abysmal 43 over par on the first, lake ladened course, things began to look up. Four holes into the next tournament I was hooked... often. The speed and flow of the game are almost as impressive as watching the instant replay (replays are just another added extra) of a colleague making an eagle – 2 under par – on a 464 yard, par 4 hole.

Admittedly the *Express* PC is fairly quick itself (20MHz) but even taking this into consideration, *PGA Tour Golf* would still provide a seamless few years of enjoyment for a plain old Amstrad 1640.

Shot making sticks to the tried and trusted power and snap bar method. Unlike *Leaderboard* for example, the bar is horizontal on the screen. Click on the mouse,

• Preparing to drive off on the first tee. Note the wind indicator, which tends to gust around erratically.

• Some of your opponents in the tournament.

or press the spacebar, once to start the backswing, again to stop on the required percentage for the distance and again for the snap. Accuracy is imperative, and hitting harder than the computer recommends means you have to be point perfect on the snap. Strangely, hooking and topping with the driver or woods seems to have much less of an effect on direction than doing the same with an iron.

Each round comes with various automatic options; overhead views are provided, as are contour views of the greens and messages telling you about the lie of the ball. To speed up the game these can be toggled off, although the view of the green is a must as all of them are quite demonic in their dips and curves.

There is also an amazingly well scrolled over-fly of the course with comments from some real pros such as Fuzzy Zoeller. This fly over wasn't quite so impressive on a floppy-based PC1640. It might sound trite, but it was the sheer elegance of this aerial tour which set the seal on a growing love affair with *PGA Tour Golf*.

Everything, from gusting wind to tantalizing putts, is there. Tournament play (eat my dust Hale Irwin) is the heart of the matter. Each tournament offers disgustingly huge amounts of money but you have to make that cut (qualify for the next round) in order to earn it. One part of the game not covered in the manual is the fact that the tension really does build up towards the end.

FORE! WARNED

Having been firmly connected to the mouse for the last week or so, a few errors did crop up. None of them really marred the game and the main glitch actually makes life easier.

You can only save one game at a time, which is a bind when you consider that there are four courses (so far). Playing into water calls for the choice of a re-hit from where you shot or a 'drop' – the drops appear to be erratic. Two players making a similar shot can drop in different places. Best advice, try the re-hit.

Another minor point is the fact that you can land right behind a bush but when you come the make the next shot, the bush will have disappeared.

Finally, and most obviously, there is no out-of-bounds. This means that you can play with full power, place the cursor to the extreme left or right, hook the shot, and still end up in sight of the fairway, albeit in the heavy rough.

Although these niggles should not have been included in the game, unlike many bugs they really do not detract that much from the pleasure and sheer style of play.

OVERALL

This has been one of those reviews which, unhappily, has had to leave a great deal out. The only way you're going to be able to sample the intensity of *PGA Tour Golf* is to go and buy it. With that in mind, does anyone know where they sell yellow, pink and blue tartan jumpers and those great mauve trousers? But right now it's over to you Tarby. ■

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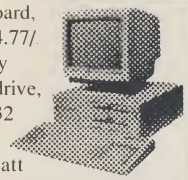

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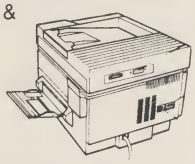

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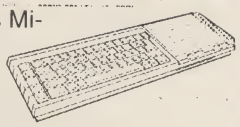

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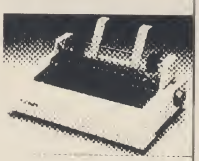

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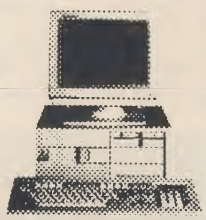

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Help! On-line question

I have recently obtained an LSD 3142 Multimodem made by Lion Systems Developments Ltd. It came without any manual or setting-up information, and as I am new to comms I haven't any idea how to set it up or what baud rate it uses. It has four push buttons on the front panel which are TEST, LOOP, MAN and AL/DL, and also LEDs which are TX, RX, RTS, DCD, LINE and OFF LINE. It also has a bank of eight dip switches inside.

Please could you offer me some advice on how to go about trying this modem or setting it up for use on my PC. I have connected the modem to the RS232C port with a suitable lead and have also obtained a comms software package called *Eazilink*. Perhaps someone reading this letter may be able to let me have a copy of the manual or information on this modem. They could contact me on 0705 372815.

Richard Coltman, Portsmouth, Hants.

I'm afraid that the modem you've been given is an unknown quantity to us here at *Express*. From your description of it, it could be a 'special', designed to run with a particular hardware/software set up. If this is the case, it would require the furrowed brow of a dedicated comms wirehead to configure it as a simple on/off line device. If it isn't a special, you could try out the following to get it to respond to you.

You haven't said what sort of PC you have, but you could start by making sure that your software is configured to drive the correct serial port (COM1 or COM2).

Once you're sure that you've set the software correctly, try typing AT and hitting the carriage return. If the screen echoes back 'OK', then your modem supports the Hayes protocol. This is well documented and, being the industry standard for data transmission by modem, means that the manual for any Hayes-compatible modem will give you enough information to get on line.

If all this fails, I'm sure some kindly Techtipper will provide the necessary information.

Help! DIY modem

I have, for a considerable time, wanted to buy a modem. However, is it possible to make your own modem? I have noticed a modem 'chip' in the Maplin catalogue. My brother is quite good at electronics, so would it be better to buy a modem or make my own? If your recommendation is the latter, how would I go about making the modem?

Any help you can offer would be gratefully appreciated.

Nicholas Holland, Maidenhead, Berks.

It is possible to make a modem, just as it is possible to make anything given the right plans and tools. I don't know of a modem 'kit' but I do know of one chap who has designed and built a modem. The first (and most important) warning is that any modem that you build yourself will have to remain on the shelf. Telecom's rules say that you can't plug anything into a phone line unless it has BABT approval. This takes months, costs thousands and would be a little OTT for a one-off.

Assuming that you decide to go ahead anyway, a 'guru' of things modem is Dave Gorski, the sysop of Aspects bulletin board in Manchester.

Dave was responsible for the *Cage* viewdata package for the CPC, and has had one of his modem designs sought commercially. The bad news is that to get in touch with Dave you'll need a pal with a modem so that you can log on to Aspects. The number is 061-792 0260, the board runs at V21, V22, V23 and V22bis with the protocol 8n1. Let us know how you get on.

Help! Hard facts

Six months ago I was lucky enough to get one of the Olivetti PC1s that Evesham Micros was selling for £300, and I have nothing bad at all to say about it. I know it's not a 16Mb 486 with a 120Mb hard drive and a zillion megahertz top speed, but I've got all of that technical stuff at work anyway. Let's lay it on the line – I like my PC1.

The only thing that's bugging me is that this is a hard-drive type PC1 (the PC1HD) knocked out with a second floppy instead when the supplies of hard drives ran out. A little message comes up whenever it boots saying "Hard drive not ready" and there's a sad little empty 40-way connector on the board just waiting for a visit from Mr Winchester, if I could only figure out a way.

What I think is the Western Digital disk controller chip is marked: (c) WDC '87 WD37C 65 BJM 00-02 8823 030819103.

The B: floppy is connected to a 34-way connector and there's another one (with a two-way switch to select between these) for connecting an external 5.25-inch drive D:. Plus that empty 40-way, just begging for it.

Now the easy way of adding a hard disk is to stick one into an expensive box and nail it onto the expansion port, where it won't auto-boot anyway, but true to the traditions of generations of inventive and knowledgeable Tech Tips, you are about to tell me of a little-known 3.25-inch half-height 65Mb drive which has very low power consumption, mates with a 40-way connector and costs under £100... aren't you? Please?

There's, oh, must be tens of other PC1HD owners out there just dying to get some hard storage going. And while you're ringing up your mate Clever Trevor or whoever you get all your answers from, see if he knows how to add a battery backed clock to save me all that date-and-timing. Ta. I've really, truly and honestly bought *Express* since Issue 1, November 12, 1988 (grovel, grovel) and this is the first time I've had to bother you with my boring problems.

By the way, in case the other PC1 owner hasn't written and told you, you were right (as always) to tell Mr Dixon in *Express* 80 that it was his `AUTOEXEC.BAT` file moving the screen. Olivetti seem to prefer the screen offset one character to the right so they put in an inscrutable little file called `PERITEL.COM` which has this effect. As I don't know, and Olivetti don't say, exactly what this does I've left it in my `AUTOEXEC` and moved my chair a bit.

Bernard Coxhead, Northampton.

Clever Trevor says that the last time someone wrote in asking for hard drives for a PC1, the PC1 user group sprang out of the bushes and offered to supply these wondrous Winchesters for all who had the necessary disposable income to

HELP! Do as I say, not as I do...

Why do you spend week after week answering technical questions about disk drives, operating systems and hardware no-one's ever heard of when the majority of your readers just want simple advice on how to get the best from their computer?

I have been in computers for years and haven't ever needed to do anything more drastic than read a manual or fit a plug. If your readers spent more time reading the manual and less time writing letters about so-called problems that are well-documented in their literature, there would be more space available for real tips and help.

You can, however, assist me with the following. How do I load PCW *LocoScript* files into PCW *Protext*? Can I produce PostScript files on a PCW using the splendid desktop publishing program from Database?

Glenn Adams, Southport, Merseyside.

I'm glad to see that the silent majority finally grew a voice. The reason that we answer the questions that we do is that those are the questions we get the most of. Strange as it may seem, these are the questions that people want the answers to!

To answer your questions:

1. Load it into the *Protext* file conversion program as a *WordStar* file. It may sound unlikely, but it works!

2. No, the program that you mention gives no support to PostScript. There aren't currently any programs on the market that will do the conversion that you want.

purchase them. You can find them at 26 Kings Drive, Westonzoyland, Bridgewater, Somerset TA7 0GH. Or you can phone Norman Keylock, who runs the group, on 0278 691045.

HELP! As simple as ...

I know that it's possible to get my Amiga to delete every file in a current directory with the command DELETE #? ALL. My problem is that I need to write a routine using AmigaDOS commands that will allow me to throw out different categories of files, selected alphabetically, before replacing them.

For example, I might want to delete the files beginning with A, C, and Q or F, H and W. Is there a simple way to do this?
Andy Gitton, Sturgeley

I shudder to think what your program actually does but what you want to do can be achieved quite simply. The DELETE command in AmigaDOS can be extended to do the job that you require. To use your own pair of examples, the solution would be:

`DELETE (A/C/Q)#?` and `DELETE (F/H/W)#?`

A good source of AmigaDOS reference (although my issue is probably a little out of date by now) is *Amiga DOS Reference Guide* from Compute!, ISBN 0-87 455-047-5.

It's an American book with a cover price of $16.95, but the price over here can vary a lot, so shop around.

HELP! Monitorium

I want a robust monitor for my Archimedes A3000. The one that Acorn is offering looks plastic, cheap and liable to damage. Is it the same one that Philips makes? It looks like it.

At school, we used to have charcoal grey, cube shaped monitors that were specially made for the BBC B and, as well as standing the knocks, they were high quality. Will one of these work with my Archie?
Paul Hayes, Aylesbury, Bucks.

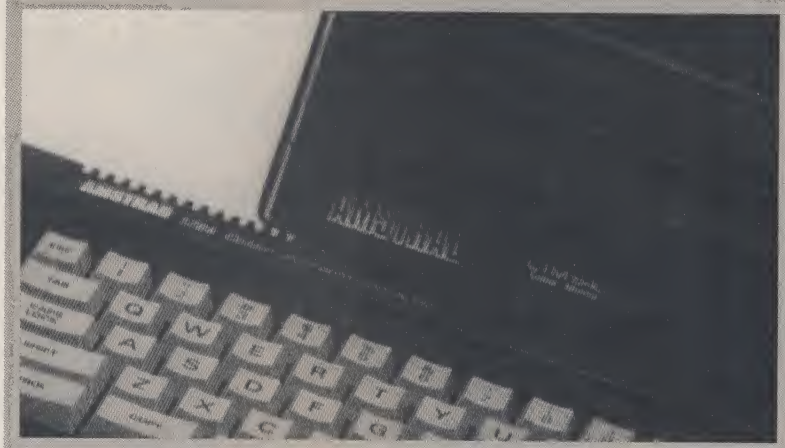
The monitor that Acorn supplies is the Philips monitor badged with the Acorn name. A quick trip around the *Express* building found half a dozen of these doing sterling service on the various magazines. They seem to have survived the rigours of the publishing world without damage.

The monitor that you remember sounds like the Microvitec Cub. A phone call to Microvitec in Bradford confirmed that the Cub was alive and well.

It has metamorphosised from its charcoal grey to an A3000 shade of cream and is available as the Cub 3000 with an A3000 video lead attached. It retails at £220 and has the tastiest medium-resolution display I've seen this year.

You can contact Microvitec by phone on 0274 390011.

HELP! Problems with games after screwdrivering a CPC



• CPC games won't run after Multiface surgery – or will they?

I have several queries so perhaps you could redirect them as appropriate.

1. Several aeons ago I had the pleasure of seeing that I had been a winner of a CD disk for my Amstrad CPC. I still await the pleasure of actually receiving said CD. I have written before but that was in the pre-printer age, and perhaps you could not read the writing.

2. Since my CPC was upgraded by internal surgery to thinking it was a 6128, and had a memory graft of 64K to prove it, I cannot get some of the games to load that previously loaded well. These are, in the main, tape games that were disked for convenience using my Multiface 2 (they are not pirated). I am having to reload them again from tape and then redisk them with the Multiface 2, which is all very well, but why has it happened, and is there any other way round the problem?

3. At work we have a computer terminal to access and input to the main computer which is about 200 miles away. We have been provided with an incredibly expensive looking printer (either Hitachi or Hyundai, my memory fails me) but no connector cable. I had a cable that had been used to connect a DMP 3160 to a Sinclair 200 or similar, and the sockets fitted, but we don't know how to print out screen information – none of us understand the printer manual and nobody higher up seems to have the answer either. Should it be possible, in which case is it just the cable that is wrong and can we get a cable, or is it not possible to print out from terminals, in which case somebody up there has sent us an expensive lemon?

4. Going back to my CPC, I should like to get the introductory disks normally provided with one of these, as the handbook is tantalising when I only have a CPC DD1 disk with CP/M 2.2 and DR-Logo. Is the fact that you did not print my ad for this in the 'wanted' column due to a) it is illegal to sell or pass on these disks to anybody even if they are not wanted by the present owner, or b) you did not get my letter?

That is enough problems for now – I do hope you can help with all/some of them.
Clare Jenkins, Newton, Powys.

1. We waited and waited and waited and the CD games never came. As we never received it, we couldn't send it. To make up for it, some software should be winging its way to you in the near future.

2. The way that the Multiface utilises the RAM and operating systems of the 464, 664 and 6128 is different and as a consequence, any Multifaced game or program will only run on the same configuration of machine. Some time ago we tried to Multiface games on the office 464 for use on the 6128 with similar results. I'm afraid the only answer is to keep on pushing the Multiface button.

3. The first thing to find out is whether the terminal can support a printer, and what connections it uses to do this. The system manager of the 200-mile-away computer should be able to give you the information you need. Once you've discovered those details and found out which socket on the terminal is the printer interface, you can find out whether it is compatible with your whizzy new printer by checking with the manufacturer. Once this is done, you should have some idea of what sort of lead you need and a local computer shop should be able to supply or make it.

4. We get at least a zillion letters a week with reader ads in them and the lack of space dictates that sometimes you win, sometimes you don't. That time you didn't. The CP/M disks that you get with your CPC are licenced purely for use with that machine. If you sell the machine, you should pass on the CP/M disks with it. However, you shouldn't give them away or you're bound to be in breach of the Digital Research licence which states the conditions of use for CP/M.

HELP! Spec vs video

In order to keep things tidy, we had all our TV, video and computer cables professionally 'hidden' and routed. Everything worked fine until our son tried to use his Spectrum Plus 2 while the video was on.

The video and the computer interfered with each other. We contacted the firm that did the wiring for us, but they said that it wasn't their fault. The two pieces of equipment must be on the same frequency.

Is there a simple way to change the frequency of the Spectrum? We can't dismantle the video as Radio Rentals would have apoplexy.
Tina Hamble, Gillingham

The output frequency of the Spectrum cannot be changed simply, but the video can. Computers and videos always seem to congregate around channel 39 on the UHF band, and for that reason most videos have some sort of fine adjustment to tune their modulating frequency away from anything that might interfere with them.

If your video is a rented one, a phone call to Radio Rentals should bring a smiling engineer to your door to carry out the two minute job.

HELP! PC Protext

I used to use *Protext* on a PCW at work for letters and the occasional mail shot.

We were taken over by a larger company that brought with it PCs and *WordStar*. I lost the battle to keep my PCW, but was allowed to get a copy of PC *Protext*.

My problem is getting *Protext* to print properly. On the command bar it says 'PRINTER Simple' and while it's possible to get text output to paper, it isn't of anything better than a rough draft quality. The printer is an 80-column Epson and the PC is an IBM PC-AT.
M Frobisher, Virginia Water, Surrey.

What you need to do is configure *Protext* so that it knows which printer you're using.

Before using *Protext*, run the `CONFIG` program. This gives you menu options to set up printers, display colours, and text formatting options. In the printer configuration menu there is an option to install your Epson printer. ■

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DESKTOP DIRECTING

• Get into deskto video the G2 VideoCenter, a good low-cost Amiga-based TV production unit.

The Amiga has the power to produce stunning graphics for video – so-called desktop video – but you need some extra hardware. Andy Storer looks at a device which lets you mix video signals with Amiga graphics and record the result to tape.

The Amiga and ST may share very similar specifications, but in the area of desktop video they're leagues apart. Commodore's decision to include an external sync pulse in the Amiga's CPU right from the word go gave it a major advantage over its rival in the desktop video stakes. That one little addition made it possible for third party developers to launch genlock devices and open up the way for low-cost and reliable video effects, editing, titling and animation.

The ST still lags behind for the want of external sync capability, with only one genlock and no software to utilise it. The Amiga now has eight genlocks ranging in price from £100 to over £1,000, the latest addition being the state-of-the-art £800 G2 VideoCenter.

In brief, the VideoCenter mixes an incoming PAL video signal with the Amiga's output using sliding faders or software control. It can also provide RGB output and has inputs and outputs to drive S-VHS systems.

Fitting the genlock is simple – it's a mains-powered, stand-alone box which plugs into your Amiga's RGB monitor socket; an RGB output on the VideoCenter carries the signal to your monitor. By connecting a videotape recorder or camera via the supplied composite video lead to the genlock you can then choose which signal to view on your monitor. There are four options. Video source signal only, Amiga signal only, video source superimposed over Amiga signal and vice versa. The latter two are known as 'keys' and the effects produced referred to as foreground or background masking.

Superimposition, be it foreground or background, relies on a 'key' colour. In television production, blue has traditionally been used as the key, but, by and large, most Amiga genlocks default to black – with a few offering the choice of any colour as a key. G2's VideoCenter offers you 16 selectable key colours from the Amiga's output. What happens is that all appearances on screen of the chosen colour have the incoming video signal superimposed on them. To all intents and purposes the signals are mixed and can be output to videotape as a single signal. One thing worth bearing in mind though is that just because you have a mixed screen display, you can't save it to disk – the signal only appears mixed. It remains two distinct signals that are overlayed one on top the other. You can direct screen output to a video recorder for later viewing.

Besides software controls, VideoCenter also offers front panel control of keying and fade to black so that 'live' mixing and effects can be achieved without the cursor appearing on screen.

While the unit's coded composite video output will be suitable for most professional and industrial applications, the RGB outputs can be used to drive external PAL hardware for full broadcast specification performance with the addition of G2's add-on 815 coder box for £950. No, the kit doesn't come cheap but as broadcast spec caption generators run into five figures, you're still talking major savings.

G2's VideoCenter does exactly what is required – rock steady superimpositions and perfectly graduated fades and cross-wipes. Use it in combination with a package like Electronic Arts' *Deluxe Video III* or ZVP's *Video Studio* and you have a simple solution to preserving extended animations and titling on tape. This is precisely why a genlock is a good investment if you have a video recorder.

You can think of the tape deck as a device to which you can 'print' animations, logos, advertising sequences – even taping that impossible dash through the final level of *Xenon II* to impress your friends. But at £800, VideoCenter is going to be purchased for professional applications, and G2 is in a position to offer a range of additional kit, priced up to £25,000, to complement the system's serious potential. ■

VideoCenter costs £800 from G2 on 0252 737151.

THE AMIGA VIDEO VAULTS

A genlock is one thing, finding the best software to make the most of it quite another. Here's the *Express* guide to the tops in Amiga TV titles:

GENERAL VIDEO SOFTWARE
***Deluxe Video III*, Electronic Arts, 0753 49442, £99.99**
The best all-round package for combining computer and video images via a genlock.

***DVIII* offers super smooth animation, borderless overscan, dozens of transitions, frame accurate recording down to a 1/60th second, and an object-orientated interface enabling you to author interactive presentations.**

VIDEO TITLING AND EFFECTS SOFTWARE
***Video Studio*, Maze Technology, 081-520 9753, £99**
Incorporating 12 of the most commonly used video production utilities, this excellent package also includes 20 broadcast quality anti-aliased fonts along with nine wipe patterns and a range of broadcast test signals. Fades up and down and copyright screens that you can customise yourself are also included.

ANIMATION SOFTWARE
***Deluxe Paint III*, Electronic Arts, 0753 49442, £80**
This excellent package produces high-resolution keying areas for genlocked superimposition and can be used for producing background pictures and retouching digitised images.

***Real Things*, RGB Studios, 0825 812666, £25**
An add-on for *Deluxe Paint III* which allows you to construct detailed choreographies of animated sequences with ease.

DESKTOP VIDEO APPLICATIONS

Captions, interactive video, information systems, video graphics, advertising, training, education, security systems – the list of desktop video applications is seemingly endless. But how do you go about learning the basics?

G2 Systems has produced a video using the VideoCentre which introduces would-be desktop directors to recording computer graphics onto videotape. Costing £10, the tape covers coding, genlocking and keying.

HOW A GENLOCK WORKS

An external sync pulse is essential for mixing computer and video frames since it enables the controlling hardware, the genlock, to synchronise the output from the Amiga's video chip with that of a live or recorded video source. It works by synchronising the line and frame generators of each display's refresh rate, thereby locking together both horizontal and vertical scans. The three RGB signals from the Amiga are combined to produce a composite or PAL video signal and mixed with the composite signal from the video source to produce rock solid superimpositions.

A COMPUTER IN THE HAND...

...is worth two in the office. But just how useful are the tiny micros you can fit in your jacket pocket? Keith Pomfret got to grips with five..

Serious business computers have shrunk in size from the huge air conditioned monsters of the Fifties and Sixties to the more manageable desktop variety we use today. With the trend toward more power in less space it was only time before the office became truly portable.

In the early 1980s, the Osborne 'portable' computer brought us the word luggable with its heavy metal chassis and 28 pound weight.

The Osborne was a heavy and cumbersome beast that looked like an old sewing machine when closed. It still needed mains power and the tiny internal monitor was all but unusable, but it got the computer off the desk and on the road. Later Osborne executive models came with either CP/M or MS-DOS thus making it the first (slightly) PC compatible portable too.

MUSCLE MEN

More companies produced similar, 20 plus pound, monsters and the executive on the move grew strong arm muscles. As time moved on, technology progressed enough for battery power and liquid crystal displays (LCDs) to make true portable computing a possibility. The fold flat display and the ability to run for a couple of hours away from the mains made the new generation of portables a desirable addition to the pocket Filofax and cellphone.

The weight of a true portable is now down to about seven pounds (about three bags of sugar) and some of the slim new models aren't much bigger than a sheet of A4 paper. This means that with the battery charging pack, battery and leads you can squeeze one into a standard briefcase and still have room for a couple of Ryvitas or a microcassette recorder.

Simultaneously with these developments, pocket calculators have been getting steadily cleverer for the last few years. As well as all the scientific and algebraic functions, they have started to grow miniature alphabetic keys and notepad functions. It was only a matter of time before someone took the portability of the pocket calculator and combined it with the usability of the PC.

We looked at five of the currently available 'notebook' computers to see how they compared with the more conventional laptop portables. The notebook computers were the Poqet PC, the Atari Portfolio, the Tandy 102, the Husky Hunter 16 and the Cambridge Computer Z88.

Of these the Hunter, Portfolio and Poqet run MS-DOS (the almost universal operating system of PCs), the Tandy and Z88 have their own built-in applications suites of software. The Tandy machine has a built-in modem to connect it with the outside world, and the Hunter has a disk drive that can be connected to load or save programs.

CAMBRIDGE Z88

To persuade the Z88 to wake up, it's necessary to push both shift keys together as there's no on/off switch. Fine in theory, but as the Z88 weighs in at less than a Tolstoy novel, trying to do this on a crowded train proved too much and the lap top became a shoe top. Once it had been fired into life though, there was plenty to see.

The Z88 has an ingenious suite of programs available on power up. There is a filer, terminal, diary, calendar, clock, BBC BASIC and an application called *Pipedream*.

Pipedream has the ability to word process and operate a spreadsheet from the same page. A freestyle approach to what goes in each cell and embedded codes for different type styles and format commands turns a very basic spreadsheet into a perfectly usable word processor.

Storage on the Z88 is via cartridges which plug into the front of the unit. RAM, ROM and EPROM cartridges enable the Z88 to store and load programs and data.The third cartridge port can be utilised as an EPROM programmer as well.

A serial port connects the Z88 to the outside world and with built-in terminal software and machine specific 'link' programs, it's quite easy to get your work across to the desktop machine. The serial port can be used to drive a serial printer or a modem as well.

RUBBER

The keyboard betrays the parentage of the Z88. It seems that every computer from the Sinclair stable is doomed to a strange keyboard, and the Z88 is no exception. The keys follow the Spectrum's rubber fetish trend, and although there is a space bar and the A4 sized machine has finger sized keys, it's still like typing on a latex Scrabble board.

After 2,000 words, the keyboard was bearable, and I'm sure that people have learned to love it, but the awkward positioning of the command keys caused tears a time or two.

Niggles apart, it was a usable machine and it was set to get a glowing report until it came to re-load the saved (and backed up) article that you are now reading. This was the third time I re-loaded work into the Z88 and the other times had gone without a hitch. But this time the work was nowhere to be found. A panic phone call to a colleague who uses one brought the reply: "Mine does that occasionally too so I upload my work on to the PC as soon as it's done." So much for true portability. The article was gone for good and this is the second version.

A trip back to the by now much despised Z88 found it on best behaviour and unwilling to lose any more work. It seems to work well enough, and if it weren't for my loss, I'd be happy with it.

Even working through the six-line unlit letter box of a screen wasn't a problem. The Z88 comes with 32K of RAM as standard and RAM packs can be added (either 32K or 128K of work is stored in the RAM 'disks'. You do need to be nimble at battery changing time as the volatile RAM only allows minutes for the swap.

The documentation is good and is pitched in a way as to be useful to both the beginner or computer literate

• Cambridge Computer's Z88: handy if you don't mind the rubber keys.

• *The Poquet PC offers true PC compatibility, but at a price.*

person. As well as chapters dealing with the machine's functions, there are appendices that cover everything from the technical specifications of the Z88 to error messages and character set.

The price is £230 for the basic model. Versions with extra RAM and links to PCs and Apple Macintoshes are also available.

POQET PC

The Poqet PC casts itself as the 'serious notebook PC' with a hefty £1,552 price tag for the basic model. It is a true notebook PC, and will fit in an ordinary jacket pocket. The Poqet opens along a hinge in the middle and reveals a keyboard in one half and an LCD backlit screen in the other. The display is adequate and the soft carrying case that it comes in has pouches for storing media.

The keyboard is tiny, and touch typists would probably prefer something a bit bigger, but even without sharpening my short stubby fingers I found it usable. It is laid out in a similar way to a laptop PC and most of the keys are in familiar places.

A long bout of typing on the train proved difficult. Any lateral movement of the carriage soon changed correct spelling to 'cotevt spw;linf' and the journey between Bristol and Birmingham produced some words worthy of the PCW *LocoScript* spell checker. On a desk and on my lap the Poqet proved adequate.

Movement problems aside, the Poqet PC behaved as if it was a desktop model. In its standard form, it comes with 640K of ROM including MS-DOS 3.3 and GW-BASIC. 512K of RAM is left uncluttered for program use, which brings us to storage. Credit card sized RAM/ROM cards are loaded into slots under the machine, and perform the function of disk drives. A 64K RAM card is supplied with the machine along with software and connections to transfer files to a desktop PC.

Applications already available for the Poqet are Lotus *Works* and *Smartware*, both integrated packages which contain database, spreadsheet and word processing. The *ACT* sales database is available and versions of Lotus *1-2-3* and *WordPerfect* are being developed.

TANDY 102

The Tandy 102 comes with only 24K of user memory (expandable to 32K) but its full sized typewriter-style keys and internal 300 baud modem have long made it a popular text entry machine for travelling journalists. All the applications and programs are contained in ROM and although it's possible to connect an external disk drive or tape recorder, most people will find it easier to use the communications software to either connect to another machine, or upload the files to an on-line system using the serial port or modem.

The five pieces of built-in software are BASIC, a primitive word processor, communications software, an address book and a scheduler. Of these, the word processor is probably the most useful, allowing the basic entry, formatting and output of text.

The text can be printed from the parallel port, but it is more likely to be transferred to another machine and integrated into another application before final output.

The address book and scheduler packages provide an electronic alternative to the Filofax and the only software of debatable use is the BASIC which is limited to 21k of memory.

The V21 (300 baud) modem doesn't carry BABT approval, so, while it will work on BT lines, Telecom may descend with all the wrath of a Busby spurned if it suspects that you've used it.

The Tandy 102 is not compatible with any other system and can only use its own programs, but the clever integration of a modem and comms software makes this a useful machine for the frequent traveller whose priority is a cheap and efficient way of sending text. It costs £345, but is being replaced so you may have to look around for one.

HUSKY HUNTER 16

The Husky Hunter is a rugged brick of a machine designed to take the rough and tumble of an outside working environment. The keyboard is reminiscent of a large calculator and touch typing would be impossible on it, but it was never intended as a text entry machine.

It has a letter box backlit LCD display, and runs MS-DOS from ROM – claiming a large degree of PC compatibility. The small size of the screen makes word processing at best difficult, but it's with data intensive tasks that the Hunter comes into its own.

A separate disk drive (a 3.5 inch, 1.44 Mb model) that can run from mains or battery loads programs into the Hunter's 2Mb memory. Once loaded, the disk drive can be removed and the rugged machine used in all weather conditions. Around the country, electricity and gas boards use Hunters to collect data, and councils with large data gathering tasks are turning to it as an ➤

• *The Tandy 102 can be hard to find, but its keyboard is excellent.*

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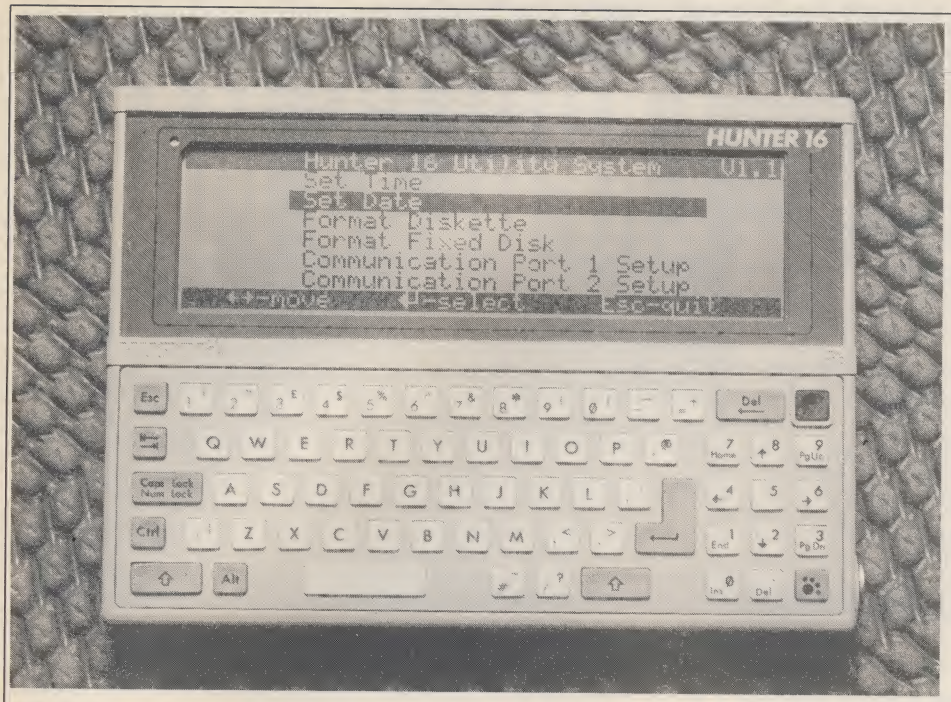
HARD DRIVIN'	AUG

SNK NEO-GEO

NEO-GEO	£450
BASEBALL	£199
GOLF	£199
NAM 75	£199
MAGICIAN LORD	£199

Please make cheques and P/O's payable to: **NEW WORLD CONSOLES, Dept NCE, 61 Stainmore Road, Bedford MK41 0PZ. Tel: (0234) 266352.**

Please add £1.00 p&p for games and £5.00 for machines.



• The Hunter is tough, compatible and extremely expensive. Corporate entities only.

option that will run PC spreadsheets and databases and write to a PC disk for transfer to the larger system. An elastic strap on the rear of the Hunter makes it possible to 'wear' it on one arm while keying in data with the other. The keyboard layout makes this easier for a right-handed person but perfectly possible for a left hander.

Husky produces machines and software to order and offers a bespoke service. An application to suit your needs can be supplied locked into the machine. Prices start from, wait for it, around £3,444 including a disk drive.

ATARI PORTFOLIO

The Portfolio falls into the same size category as the Poqet, fitting neatly into a jacket pocket. There the similarities stop. While the, £1,552, Poqet is designed as a scaled-down full feature PC, the Portfolio provides a similar size solution for the person on a limited budget. £250 buys you a machine with tiny keys that will frighten away typists and an early version of MS-DOS that will be familiar to PC users, but with only 128k of RAM it will baulk at the larger, more up to date, applications.

A 256K ROM (Read Only Memory) contains a time manager, calculator, address book, tone dialer, text processor, and spreadsheet.

The spreadsheet can export data to popular spreadsheets like Lotus *1-2-3*. The text processor produces files that can be transferred to a PC and imported into a word processor for formatting and final output.

A expansion port allows you to add a serial interface or parallel port. A credit card RAM card system similar to the Poqet PC looks after storage. RAM cards of 32K, 64K, and 128K are available and extra RAM slots can be added via a special interface. A memory card drive for a PC is available to make direct transfer of data possible.

The display normally shows 40 columns by 8 lines, but a full page mode is available that windows a full 80 columns by 25 lines display.

Atari's machine was designed by a company called DIP, and you may well see grey imported versions around bearing that firm's moniker. The Portfolio is getting into the same region occupied by the Sharp personal organisers and other pocket electronic Filofaxes such as the Psion Organiser and the MicroWriter Agenda. Useful devices all, but text entry is awkward and difficult. ■

SUPPLIERS

Most of these computers are available through High Street outlets, but if you have difficulty ring the manufacturers:

Z88
Cambridge Computer
Tel: 0223 312216

POQET PC
Poqet
Tel: 0753 5/80018

TANDY 102
Tandy
Tel: 0922 710000

HUSKY HUNTER 16
Husky
Tel: 0203 668181

ATARI PORTFOLIO
Atari
Tel: 0582 37171

ROUND UP

There is no clear winner as each of the notebook computers addresses a different problem. None has the responsive full keyboard a laptop but the Tandy 102 comes close. You can learn to live with a small windowed letter box display but the full 80 columns by 25 lines is welcome on the return to the full sized machine.

In short, whichever you choose, from the £250 Portfolio to the £3,000-plus Hunter, it is bound to be a compromise in one way or another.

The good keyboard of the Tandy 102 is marred by its lack of RAM. The excellent on-board programs of the Z88 are hindered by the rubber keyboard and its occasional forgetfulness.The well-featured Poqet compromises with its credit card applications, but wins points for a usable keyboard and good display.

The Husky Hunter 16 is rugged enough to stand everything except touch typing, and Husky will tailor any machine to any task, but so it should for the price.

The Portfolio demands special interfaces to communicate with the outside world and it has a terrible keyboard, but it is cheap.

Pick the machine that suits your needs and pocket best, but if you want a machine that behaves like your office PC and don't need to be able to put it in your pocket, a laptop with disk drives is probably a better option.

• Atari's Portfolio is the closest to an electronic Filofax, but it uses a Lotus-compatible spreadsheet.

EXPRESS MAIL

Britain's liveliest computing forum – packed with comment, controversy and conflict. Write and tell us what you think! Reach us at: *Express Mail, 30 Monmouth St., Bath BA1 2AP*
Sorry, no personal replies, even with an SAE.
This week's replies written by Keith Pomfret.

More Xe

I've been buying *Express* since Issue 32 when I first noticed that you covered the Atari 8-bit in your format columns. Since then I've seen the column cut by half, with an average of 200 words per issue.

The Atari 8-bit has more users than the MSX, QL, Archimedes and the now-dying SAM, and considering that its basic design concept has been around for almost 11 years and was created by some of the team who went on to make the Amiga, it still has a large dedicated user base in Britain and on the Continent.

I cannot see why a computer which offers such facilities as hardware scrolling, 256 colours on screen at any one time, hardware sprites, a custom sound chip (which is superior to those in the ST, C64 and other 8-bit computers) and expansion ports that offer up to 8-10 thousand bits of unbuffered data transfer per second via the Parallel Bus Interface (800XL) or the Enhanced Cartridge Interface (130XE and later models of 65XE) as well as a standard cartridge part on both models, has to put up with a mediocre column which is hardly ever printed anyway (take the last three weeks for example).

I just hope you see fit to increase the size of the column and get rid of the awful blotchy CPC screenshots at the same time.

C Roberts, Clwyd

Sceptical wordsmith

Being naturally sceptical of words without vowels, I took the trouble to investigate when a shareware Scrabble program awarded itself a handy score for the word 'ST'. Surprisingly, it exists, and is defined by *The Shorter Oxford Dictionary* as 'an exclamation used to drive an animal or to urge it to attack.'

Presumably the uncertain nature of the animal's choice of two permitted reactions rendered the word of doubtful utility, accounting for its disuse in modern language; but there is still one entity which reacts to the syllable in the defined manner. I refer, of course, to the Amiga user.

Iolo Davidson, Tetbury, Glos

A sting in the tale in true Iolo Davidson tradition. My only memories of ST were on the army barrack square where a very noisy drill sergeant used to bellow ST... wait a minute I haven't said it yet, stand in line you ticktocking heathen ST... ST... STAND AT EASE... ST.....ST... STAND EASY. Then again he probably didn't have an Amiga either.

World's longest letter

In last week's *Express* there was comment about the Crystal Unicorn and the 64 columnist, Pete Gerrard. The lengthy letter was called '64,64,64,' and it was from 'Anon of Copmanthorpe, Yorks.'

The remarks about constant plugging of Crystal Unicorn were grossly unfair. We were mentioned in the 64 column with praise from Pete Gerrard only because he thinks we are an organisation worthy of the reader's interest.

We have had a fair bit of the cane from Pete – more criticism, in fact, than plugging. A look at back issues of *Express* will prove this beyond all doubt.

Although we know that the 64 will eventually be replaced, we are dedicated to promoting it in the hope that with enough support, the 64 has a hell of a long life left yet.

'Anon' should look at his C64 and also at the poorly covered columns in the few remaining magazines that bother to cover the format at all. He should ask himself why he finds so little around by way of C64 coverage.

Now, anyone with an ounce of memory will tell you that Pete Gerrard, far from being just another columnist, has a track record worthy of a double page profile in this very weekly. He's been with the C64 since its birth, and he has written books on the beast.

I see no reason why he is given so little space in which to do a decent presentation. That very pathetic little cube on the format pages of *Express* in which he is forced to crush his items could be filled every week with a hundred times more information.

There can be little excuse from whoever it is that allocates space for formats, articles, etc. If all 64 users would write in to Pete Gerrard, or better still, write in to the editor at *Express* to support the C64 column, it will go a long way to securing a larger column for everyone with a C64.

Dave Mason, Walton Highway, Nr Wisbech, Cambs

Your nearly 1,000 word epistle has been trimmed to slightly less than half of its length in order to allow *Express* space to reply. We applaud your stand for the C64, and with the dedicated support you promise it, I'm sure it will last some time yet to come.

A quick bout of phoning confirmed that peripheral suppliers and software houses agree with you, and that the

Deceptive vision

When is computer not a computer? Confused ... well let Express *console you!*

Do my eyes deceive me or is *Express* shrinking? What, in particular, has happened to Express Mail – a personal favourite of mine?

This section came out to only one and a half pages in the last edition. Is it a lack of space, or letters or simply that the letter editor's well of sarcastic wit has dried up? Don't get me wrong on that point, I enjoy reading the editor's replies as much as the letters.

To change the subject, should consoles be included under the heading of computers? Whatever is said in a dictionary, I do not believe that the public's perception of a computer in any way would include a console.

No matter what the processing power in the box, I would not call them computers. While I find a snippet in the news section on consoles interesting, I think that is as far as it should go. Surely even *Express* would draw the line on giving a full review to the latest 'Game and Watch'.

A H Foster, Bassett, So'ton

Express doesn't suffer from seasonal shrinkage as much as some publications, but the amount of news/features and columns can vary from week to week, and sometimes something has to give.

If you take a careful inventory of *Express*, you will see that there is no prejudice involved. Any section of the magazine could come under the editorial surgeon's knife.

The 'is a console a computer?' debate seems to be equally supported by both sides ferociously claiming that it is or isn't.

The decision by some of the console manufacturers to consider keyboard add-ons will muddy this water even further.

Where should we draw the line? Nowhere. *Express* will remain flexible enough to judge products on the basis of individual merit.

stock levels carried for the C64 are indeed comparable with other machines. Your comments on the amount of coverage of the C64 in the magazine have been passed on to the powers that be and will be dealt with accordingly.

Declare a share

Thanks for printing my letter in *Express* 84, and may I take this opportunity to answer some of the points you made?

You say that pirates break the law and PD libraries don't, although in your second point you say that PD libraries are breaking the letter of the law?

Also, if you don't place ads in the Reader's Ads section from companies, how does CEDM, with its Amiga disk magazine, and Fastline, with its Sam PD library, to name but two, get to advertise? (*Express* 82).

At the top of the Advantage advert it says 'Best PD and Shareware available', but nowhere in the ad does it say likewise. So, if I were to purchase any one of the Amiga packs, I would not know if it were PD or Shareware until it arrived, would I?

Now I understand what you mean when you said 'we only accept legal, decent, honest and truthful ads'. I can only reply to this, 'in all honesty you're talking crap.'

Furthermore, since you are telling me to exercise my right not to buy if I think the price is too high, does that mean you think £21.95 for 9 PD disks is fair?
Jeff, Tyne & Wear

I had always thought Tyne and Wear was another planet. You have confirmed it. I will take your points in the order that they occur.

Read what we wrote before climbing on to your high horse. The reply said that PD libraries MAY be breaking not ARE breaking the law.

We try to weed out commercial operations from the Reader Ads, but it is sometimes difficult to draw the line between home-run enthusiast's operations and full blown commerce. Keep us informed of any blatant rule breakers.

You could always ring Advantage and ask for clarification if you do not understand the advert.

About our integrity as far as ads are concerned: were you brought up to use bad language in letters or did you have to practice in front of the mirror?

As for PD: if the quality and content of the software and the disks is good, then just over £3 a disk represents enormous value. Of course, value is a personal thing dependent upon perceived needs and utilisation.

Pure conjecture

Your magazine gets more like *The Sun* every day. When I started taking it a year ago, it was a sensible computer magazine that stayed within the bounds of the possible and only occasionally slipped into the realms of speculation.

Nowadays, the mag is full of conjecture, stories about computers giving birth, impossible hardware and hard hitting sensationalistic news.

All of this leaves a problem that you must sort out immediately. double the size of the magazine and give us more. Instead of a technical journobore, *Express* has life. Keep up the good work and I'll be looking out for the story of a World War II computer found on the moon.
David Lampster-Trowgh ,Tunbridge Wells

We'd just arranged for a ZX81 and a Dragon 32 to be shipped to the moon and you've blown the lid off our story. One thing that you must remember is that today's conjecture and impossible hardware is tomorrow's desktop environment. Ten years ago, the idea of offering a 64K computer with colour was like offering someone, who lived in a garage and ate baked beans, a ballroom with a running buffet and velvet drapes.

Nowadays, the offer of the same computer is the equivalent of asking a guest to do the dishes.

The stories that you consider to be beyond the bounds of possibility now, will be commonplace very soon. Watch this mag!

So there I go

Just a line to let you know that I have stopped purchasing your magazine. I have bought it since its conception, but you obviously don't want me as a reader.

I have sent three adverts to you, but none have been printed. There is nothing wrong with my adverts, they are just as good as the next. Some people get the same advert entered two or three times in the same edition – others get theirs in week after week. I couldn't manage either!

Since I'm not good enough to have my advert accepted, I'm obviously not good enough to read your magazine – so I have stopped from this week.

PS: I wasted three perfectly good envelopes and three stamps sending in my adverts!
A Frazer London

If you've stopped buying *Express*, you won't be reading this reply, which is a pity as we had a nice explanation planned for you.

Let us know if you start reading again (*he can't, he's not reading it – Ed*), and we'll address your comments. For those of you who still are reading, look out for some changes in the way we handle the Reader Ads. Our new editor has plans ...

Compost corner

Is it really necessary to drone on week after week through the summer with competitions advertising products that no-one particularly wants?

If you're giving away over £500 worth of goods a week, why don't you save up all the money for a year and have one large competition with a prize worth about £26,000? You could even make some interest by saving the money until the end of the year.

With the £26,000 that *Express* probably spends on lots of little prizes, you could give someone (preferably me – because I'd win anyway) one of every home computer that exists, and a full set of different software and laser printers and things.
Owen Brandreth, Newport Pagnell

If the *Express* competitions weren't popular, we wouldn't have the sacks full of replies from readers eager to get their hands on the booty. To have an annual competition with one huge prize would spoil the fun of winning something for those hundreds of *Express* prizewinners every year. However, if you wish to sponsor the annual competition...

Word stars?

A report in *Express* (75) described a word processor that could configure its keystrokes to emulate other word processors. It was an idea that made it easy for many people who learned on different word processors to use the same machine and document.

Manufacturers should define a rigid set of rules for an operating system. Software writers could be 'persuaded' to use the same commands. If all cars' systems were different, it would be impossible to drive. We shouldn't put up with it on a computer?
Ann Barton ,Leominster

We agree with your sentiments. Macintosh is proof that they work. Other manufacturers are coming into line but it will be some time before all machines use the same system.■

Hatchback Coupé?

I think there is too much doom and gloom being spread about the demise of the MGT machine. There are lots of people, myself included, who think that the Sam Coupé is the best machine that has been produced since the Spectrum, and it is the natural upgrade for anyone that has outgrown his or her Spectrum.

I know of at least two sources of Sam software. Dave Tonks who has produced eight games so far, and I know that he is working on at least two or three more at present. He has sold the rights of his first 8 to Brian and Ron Cavers who run *Outlet* magazine, which by the way, produces a Sam version of its magazine, both on tape and disk – good value at £2.75 per month.

We at the Spectrum Discovery Club have purchased a Sam with the express purpose of getting one of our members who is conversant with the Opus Discovery ROM to work on an emulator for the Sam. We have been told by our hardware expert that this should not be too difficult as the Disk controller used by the Sam disk is a close relative of the Opus disk controller.

We are also about to launch a Sam based disk magazine to run bi-monthly with our Opus offering – anyone interested can contact me at 57 St Saviours Rd, West Croydon, Surrey, CRO 2XE; or phone 081-689-1439.

I hope this shows Sam owners that all is not black – the Sam Coupé is here to stay.
B D Mumford, Croydon

The Sam Coupé: far from dead and buried – with plenty of software under development.

We'll be hearing about the Coupé for some time yet. In the couple of weeks since MGT went into receivership there have been enough liferafts and offers of support to rescue the machine and its software from potential oblivion. Rumours that a new, upgraded Coupé called the Hatchback will be released to facilitate a quicker ROM change proved to be unfounded.

COMMENT

Is the law still an ass, so far as computers are concerned? Or are legislators and the legal system learning to cope with computer crime?

As well as the legislators, judges, lawers, and the police have difficulty in dealing with the intricate and often highly-specialist legal issues that surround the use and abuse of computers. Some years ago, one judge declared to a petitioner that he could not rule that code contained in a chip infringed copyright – he couldn't see anything, and therefore couldn't decide whether or not copyright had been infringed.

At least in America, copyright and patent laws make the judge's task somewhat easier – 'look and feel' clauses in American law have allowed Apple to pursue claims against Xerox for infringement of its WIMP environment. And Lotus has recently obtained a ruling that the menu system for its 1-2-3 spreadsheet can be held in copyright, and is actively seeking to quash clones that work in the same way as 1-2-3, even though the coding is original.

Whether this is 'a good thing' for the software industry or indeed for the consumer is not yet clear – arguably, such 'look and feel' legislation could lead to a monopoly on ideas and a stifling of creative software development. On the other hand, innovators need to see that due reward can be derived from the implementation of an idea. This means that some level of copyright protection for ideas and approaches as well as for chunks of code is needed.

As is the case with most legal actions, the institution of a new law is just the beginning: only prolonged and expensive litigation can produce a definitive precedent.

On a whole range of fronts, the law is currently struggling to get to grips with the issues that surround computing.

In the UK, the Data Protection Act has not yet proved to be a major asset to the individual in securing the right to ensure that information held on computer is accurate. At one fell swoop, most of the data held on the computers of government agencies is exempted, and even the credit reference agencies still blacklist an address rather than a name. You may be refused credit, even if your personal record is spotless. According to the Registrar, some 30 cases have been brought since the Act became law – and most have resulted in a £200 fine. Hardly a major deterrent.

Disturbingly, the Act is now being used by some litigants as a rod to beat the backs of organisations with which they disagree – both the National Front and the National Viewers and Listeners Association have been the subject of recent complaints that appear to be motivated by a difference in political opinion rather than the desire to see justice done. This is effectively an abuse of the Act, which was drafted to protect the rights of the individual living in a computerised society.

Another aspect of Datacrime – hacking – can now be addressed under the provisions of the Computer Misuse Act, but the powers it confers on the police force seem unlikely to worry the serious hacker who is using a modem for commercial gain. The penalties are severe, but as the definition of terms such as 'computer' are not made explicit by the Act, there will have to be a long round of test cases before m'learned friends get a firm grip on the subject.

The law has little difficulty in protecting the individual's rights to physical property. The day when intellectual property, as it relates to computer data or programs, achieves a similar level of protection is still a long way off.

Justice is still not being done.

NEXT WEEK

PSION SCIENCE
Express test drives the new MC 400 portable

SHARE AND SHARE ALIKE
Stockmarket speculation from your desktop

PLUS

- The Shopping Express guide to Word Processors
- Tech Tips: advice
- Letters: The best debate outside of Parliament

WITH

A column for your machine. ST, PC, Amiga, C64, Spectrum, Archimedes, BBC, MSX, QL, PCW, CPC and SAMCoupé

FROM The ARCHIVE

ONE YEAR AGO

Computer hackers were given an eleventh-hour reprieve as the long-awaited anti-hacking Bill failed to make it through the House of Commons.

Tory MP and ex-programmer Emma Nicholson had lobbied Parliament for months in a bid to give hackers a hard time. She wanted to jail 'computer criminals' for up to 10 years.

When Nicholson's Private Member's Bill was due to come before Parliament however, it wasn't considered important enough for debate, and as such it received no hearing.

A UK version of the Japanese games console, the PC Engine, was planned in secret.

The machine sold half a million units in its first month on sale in Japan, and the firm's British HQ was seriously monitoring the grey imorts.

- A year later the promised machine is still a reflection on the water below the rising sun.

CD games arrived in the shape of a 10 game disk for the C64 which could be loaded from a standard CD player via a special interface supplied in the pack.

The games loaded in about 30 seconds and connected to a CD player through the headphone socket.

Hailing from German firm Rainbow Arts, the pack included *Dropzone, Impossible Mission, Fist II, David's Midnight Magic, Mission Elevator, Mule, Jinks, Loderunner,* and *Solomon's Key.*

What is more, the price came in at a quite reasonable £29.99 – including the interface cable.

A survey in *Express* revealed that the average reader had spent £144 on hardware, £46 on serious software and £34 on games in the two previous months.

Further survey results showed that:

- 15 per cent of readers planned to buy a PC within the next 12 months
- 13 per cent wanted an Amiga
- 12 per cent wanted an ST
- The Archimedes weighed in at a healthy 8 percent
- MGT's SAM Coupé was craved by at least three per cent of *Express*'s readers
- 84 percent used their computer for serious and leisure purposes
- 12 per cent used their computers for games only
- At least two thirds of the people surveyed used a computer at work.

The Department of Social Security (formerly DHSS) overspent its computerisation programme by over a billion pounds while trying to replace the outdated manual system.

The programme – at the time Europe's largest computerisation plan – was costed at £1,749 million instead of the promised £713 million.

Horrified planners had to make drastic cuts elsewhere in the department to meet the costs.

Amstrad slashed between £50 and £150 off its 2086 machines in an effort to increase its share of the 8086 market.

Eight computer companies were dragged across the coals by the Advertising Standards Authority.

These included Amstrad, Castle Computers, Ladbroke Computing International and Silicon Vision.

Newcastle computer dealer Brian Dixon finally gave in to pressure from a large high street chain of the same name. He changed the name of his shop from Dixon's to Micro-Tyne.

TWO YEARS AGO

Amstrad board member Jose Luis Domingues, boss of Amstrad's Spanish operation, embarrassed his parent company by leaking details of four planned products to Spanish weekly computer magazine, *Tribuna Informatica.*

DTP and mouse specialist AMS who brought the mouse to many of the 8-Bit computers as well as the PCs was gobbled up by multi-national arch-rival Logitech.

Acorn won the right to supply Archimedes computers to schools in its home county of Cambridgeshire.

The deal was worth over £300,000 initially and underlined Acorn's stronghold on the educational market.

(sources: New Computer Express and Computer Trade Weekly).

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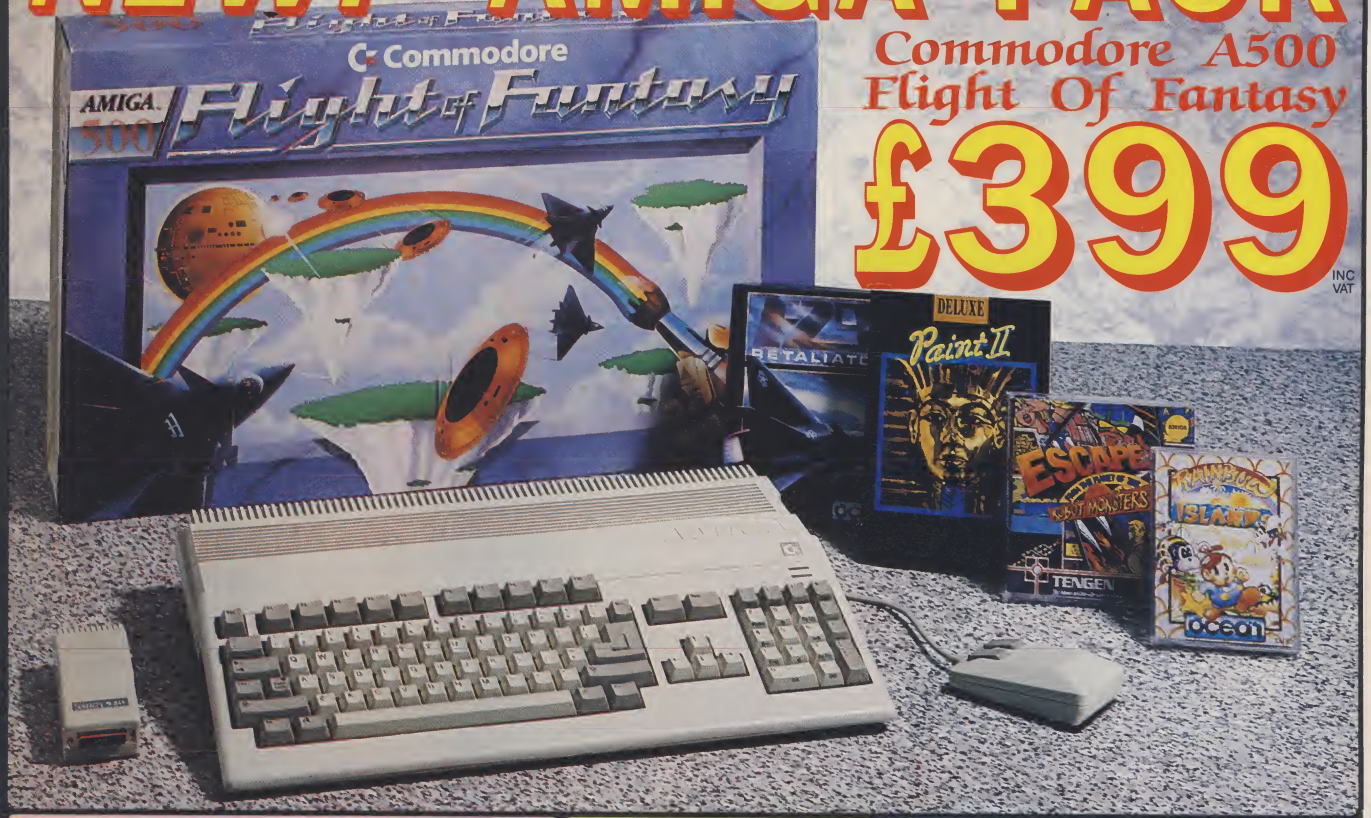
NEW! - AMIGA PACK

Commodore A500 Flight Of Fantasy

£399 INC VAT



A500 BATMAN PACK

The Commodore A500 Batman Pack must surely rank as one of the most popular computer packs ever! The pack features the **Commodore Amiga 500 computer** with **mouse controller** and **TV modulator**, plus four top software titles. The software includes: **'Batman The Movie'** - Rid Gotham City of the cunning joker, in Ocean's top selling title based on the blockbuster Batman film; **New Zealand Story** - high quality conversion of the leading arcade game; **Interceptor** - Dogfight with two F-16's in this leading flight simulator; **Deluxe Paint II** - top quality Amiga graphics package which set the standard for others to follow. Return the coupon for further details.

PACK INCLUDES:

A500 Computer & Mouse	£399.99
A520 TV Modulator	£24.99
Batman The Movie	£24.95
New Zealand Story	£24.95
Interceptor	£24.95
Deluxe Paint II	£49.95
TOTAL RRP:	£549.78
Less Pack Saving:	£150.78
PACK PRICE:	**£399.00**

£399 INC VAT

AMIGA 2000

For the more serious or professional applications user, Commodore have a selection of systems based around the expandable Amiga 2000, at prices from £1295+VAT. The A2000 features a full 1Mb RAM (expandable to 9Mb), 9 system expansion slots, plus IBM compatibility with the use of PC-XT or PC-AT bridgeboards. Complete and return the coupon, putting a tick in the A2000 box, for details of A2000 computer systems.

£1295 +VAT= £1489.25

FLIGHT OF FANTASY

Flight of Fantasy is the very latest Amiga 500 pack from Commodore, featuring BRAND NEW software releases, to make this the most spectacular A500 pack ever! The pack features the Amiga 500 computer with mouse controller and TV modulator, as well as four top software titles. These include the following:

DELUXE PAINT II:
The high quality graphics program that set the standard for other Amiga art packages. Deluxe Paint II includes powerful, easy to use tools that bring out the artist in you. Create masterpieces, presentations, 3D perspectives or just doodle.

ESCAPE / ROBOT MONSTERS:
Here's something completely different - a science fiction story with comic book style graphics. Our heroes Jake and Duke are on the Planet X rescuing Humans who have been captured by the Robot Monsters and forced to create an evil Robot Army to DESTROY EARTH! Jake and Duke fight their way through hordes of evil Robots to help the Humans escape.

RAINBOW ISLANDS:
Slip on your magic shoes, practise throwing a rainbow and you're ready to go island hopping. From the Island of Doh to Monster Island, you will encounter Doh himself, stinging insects, lethal combat machines, mechanical assailants, the formidable beings of legend and folklore. Finally enter the world of darkness and its inhabitants.

F29 RETALIATOR:
The ultimate in flight simulation with a choice of two aircraft and four battle environments with dozens of different tactical missions. Aerial combat, strategic bombings, interactive ground based battles, seagoing carriers ... the list of features is endless. Real time cockpit displays, including 'true radar' enhance the realistic feel of this stunning simulation.

PACK INCLUDES:

A500 Computer & Mouse	£399.99
A520 TV Modulator	£24.99
Deluxe Paint II	£49.95
Escape/Robot Monsters	£19.99
Rainbow Islands	£24.95
F29 Retaliator	£24.95
TOTAL RRP:	£544.82
Less Pack Saving:	£145.82
PACK PRICE:	**£399.00**

£399 INC VAT

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PRICE MATCH: We normally match competitors on a "Same product - Same price" basis.
ESTABLISHED 12 YEARS: Proven track record in professional computer sales.
£13M TURNOVER (with 60 staff): Solid and reliable with maintained growth.
BUSINESS/EDUCATION/GOVERNMENT: Volume discounts available for large orders.
SHOWROOMS: Demonstration and training facilities at our London & Sidcup branches.
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